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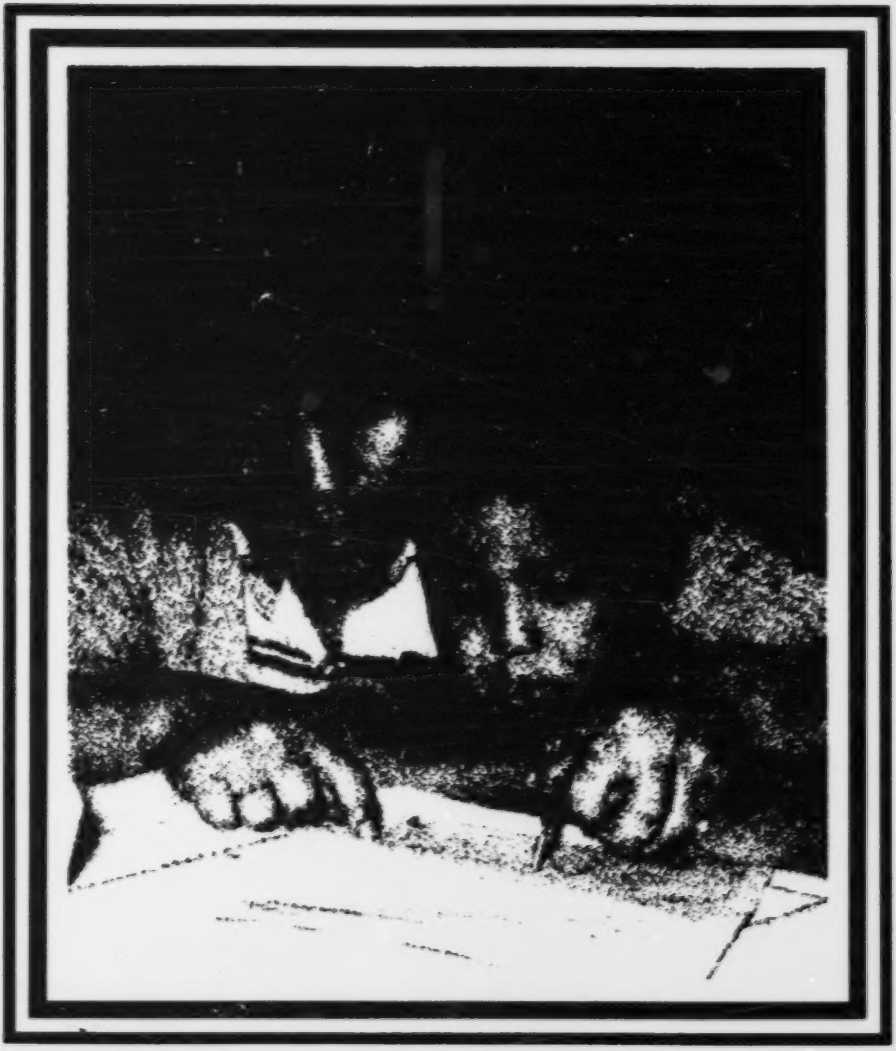
Preventing School Failure:

The Relationship Between Preschool and Primary Education



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Preventing School Failure: The Relationship Between Preschool and Primary Education

Proceedings of a workshop on preschool research held in Bogota, Colombia, 26–29 May 1981

Résumé

Cette publication contient les exposés presentés au cours d'un séminaire sur la relation entre l'éducation préscolaire et primaire qui a été tenu à Bogota, Colombie, en mai 1981, sous les auspices du CRDI et de la Fondation Ford. Le séminaire a réuni des chercheurs en éducation préscolaire venus de diverses régions du monde et spécialisés dans différentes disciplines. L'éveil précoce des enfants fut examiné à la lumière des études de cas et des programmes nationaux présentés, et analysé en fonction des effets à court et à long terme qu'il peut avoir sur le développement de l'enfant et son succès lors de son entrée dans le système scolaire. Les travaux sont groupés sous trois grands thèmes : recherche et action en éducation préscolaire et primaire; considérations sur le problème de l'éducation préscolaire et primaire; et discussions et recommandations générales.

Resumen

Esta publicación contiene las ponencias presentadas en un seminario sobre la relación entre educación preescolar y primaria, celebrado en Bogotá, Colombia, en mayo de 1981 bajo los auspicios del CIID y la Fundación Ford. El seminario reunió a investigadores de la educación preescolar procedentes de diversas regiones del mundo y con diferentes formaciones disciplinarias. La estimulación infantil temprana fue vista a la luz de los estudios de caso y los programas nacionales presentados, y analizada en función de los efectos que a corto o largo plazo puede tener sobre el desarrollo del niño y su éxito al ingresar al sistema educativo formal. Tres amplias secciones agrupan los trabajos de acuerdo con los temas tratados: investigación y acción en educación preescolar y primaria; consideraciones sobre la problemática preescolar y primaria; y discusiones y recomendaciones generales.

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Preface

This volume brings together a wealth of research experience that is beginning to be accumulated for low-income populations in the area of early childhood and preschool education. Most of the chapters go beyond simple description and internal evaluation of early education to deal with the short- and long-term effects of many preschool programs on later school success.

This is not to suggest that the only criterion of success for the many early stimulation and preschool programs should be an improved intellectual performance a year or so later. Early childhood interventions frequently have other broader criteria by which they would wish themselves to be judged. Nevertheless, for the program designers as for many low-income parents, a major consideration is to secure through preschool or other programs a better chance of reaching school or staying within it.

In the richer Organisation for Economic Cooperation and Development (OECD) countries with their compulsory schooling systems, there is obviously no doubt about reaching school and remaining until the end of its compulsory segment. There the issue for the early education of low-income families may be whether or not preschool can help in a small way to ensure a career of school enjoyment and help set the child on a road that will avoid disillusion with school, teacher stereotyping as slow or dull, and the corollary of special education and remedial classes. This may seem a tall order, but one of the best known longitudinal experiments in the OECD countries argues the value of preschool in just these sorts of terms.

In developing countries, on the other hand, the majority of school systems are not compulsory (or not in practice, even if compulsion is on the statute books). Tens of thousands of children leave schools almost as soon as they have arrived. There are many reasons: the atmosphere of grade 1 is strange and sometimes even hostile to children who have not been exposed to books, drawing, or the organization of their informal learning at home. Teachers, oppressed by large classes, consciously or unconsciously neglect those who do not seem to understand what school is about. Soon the slow children are repeating grades and, without the extra stimulus of home, find themselves failing or dropping out long before school skills have been consolidated.

It is perhaps not surprising, therefore, that preschools have been examined for their potential to reduce repetition, failure, and dropouts. If they can do this (and evidence in this book points in that direction), there seems to be a paradox in the process. Most Third World preschools have a very school-preparatory focus, emphasizing the three Rs rather than play and social skills. Yet their atmosphere seems sufficiently different from schools that children can acquire some school readiness without the accompanying pressures of grade 1 teacher judgments, classification, and competition. Hence, for all the similarity of preschools to primary classes, it seems that it is something in the *difference* that accounts for the better adjustment of children-at-risk to early school experience.

The work reported on here only begins the process of unravelling this and other paradoxes in the relation of preschool to primary. If we are to restrict ourselves for the moment to this very instrumental approach to preschool (e.g., reducing school failures), we are faced with a whole series of policy questions. How short a preschool exposure can produce this "readiness" ? Would 6 weeks be enough? Can it be produced even with unqualified instructors working with few materials in a village school? Could "caretakers" and paraprofessionals be equally effective? All of these have very important cost implications, suggesting as they do that preschool could be expanded by following a low-cost community provision model rather than the other tradition of purpose-built nurseries and day-care centres.

There are, however, other rationales for early education beyond the improvement of school chances for sectors of the population that currently enter and remain in schools with difficulty. One of these is the potential role of preschool or early stimulation in promoting wider community development. There are models in the Third World as there are in more industrialized countries where community involvement in preschool has become the entry point for parent education and community consciousness about health, sanitation, and nutrition. This role for early education is naturally much harder to evaluate with traditional measures, but is no less important for being more elusive.

Beyond the school success and community development justifications for preschool, there is a further rationale for programs that stress child development and broader intellectual growth than the three Rs approach. This childhood enjoyment strand is perhaps less evident in preschool provision for low-income populations but, like the powerful European tradition from which it derives, is concerned with a group of skills that may be vital in school adjustment as well as beyond the confines of the classroom.

The counterpart of these concerns with different outcomes is appropriate measurement tools. Thus far there has been a very strong emphasis on measures of cognitive development, and a perhaps understandable concern with measuring how long into primary school the preschool "head start" can survive. There is, however, a growing realization that other kinds of social skills and attitudes may be equally important deposits from early childhood education and, like impact on the community, require more sensitive measures than exist now.

More longitudinal work on preschool-primary interaction is needed to anchor securely trends that emerge in this book. Equally there is a need to locate more precisely the *quality* of early childhood experience through more broadly conceived studies of individual centres and kindergartens. This would be valuable not only because of the dearth of this kind of case-study analysis in the Third World's preschool sector but also because it might give an insight into the complex interactions of early learning with more formal skills and tasks.

Kenneth King
Robert Myers

Participants

Yetilú de Baessa Instituto de Investigación, Universidad del Valle de Guatemala, Apartado Postal No. 82, Ciudad de Guatemala, Guatemala

Norberto Bottani Organisation for Economic Cooperation and Development (OECD), 2, Rue André Pascal, Paris 75775, France

Sonia Bralic Centro de Estudios de Desarrollo y Estimulación Psicosocial (CEDEP), Román Díaz 28, Of. 63, Santiago, Chile

María Carmen Capelo Feijó Centro de Estudios de Estado y Sociedad (CEDES), Av. Pueyrredón 510, 7° piso, 1032 Buenos Aires, Argentina

John Clement High/Scope Educational Research Foundation, 600 N. River Street, Ypsilanti, Michigan 48197, USA

Sebastián Donoso Centro de Investigación y Desarrollo de la Educación (CIDE), Erasmo Escala 1825, Santiago 1, Chile

Stella R. de Feferbaum Centro Internacional de Investigaciones para el Desarrollo (CIID), Apartado Aéreo 53016, Bogotá, D.E., Colombia

Johanna Filp Centro de Investigación y Desarrollo de la Educación (CIDE), Erasmo Escala 1825, Santiago 1, Chile

Elizabeth Fox Centro Internacional de Investigaciones para el Desarrollo (CIID), Apartado Aéreo 53016, Bogotá, D.E., Colombia

O.N. Gakuru Institute for Development Studies (IDS), Department of Sociology, University of Nairobi, Box 30197, Nairobi, Kenya

Hernando Gómez Duque Universidad del Norte, Barranquilla, Colombia

Cigdem Kagitcibasi Department of Social Sciences, Bogazici University, P. K. 2 Bebek, Istanbul, Turkey

Vera Kardonsky-Titelman Carrera 15 No. 106-26, Bogotá, Colombia

Kenneth King Social Sciences Division, International Development Research Centre (IDRC), P.O. Box 8500, Ottawa, Ontario, Canada K1G 3H9 (Presently with the Department of Educational Studies, University of Edinburgh, 10 Buccleuch Place, Edinburgh, Scotland EH8 9JT

Carmen Luz Latorre Programa Interdisciplinario de Investigaciones Educativas (PIIE), Brown Sur 247, Santiago, Chile

Sally M. Grantham-McGregor Tropical Metabolism Research Unit, University of the West Indies, Mona, Kingston 7, Jamaica

Elena Manrique Educación Especial y Preescolar, Ministerio de Educación, CAN, Bogotá, Colombia

Nelly Mendoza Instituto de Pedagogía, Universidad Pedagógica Nacional, Calle 72 No. 11-86, Bogotá, Colombia

Veena Mistry Department of Child Development, Faculty of Home Science, Maharaja Sayajirao, University of Baroda, Baroda 2, India

Robert Myers The Ford Foundation, Apartado Aéreo 52986, Bogotá, Colombia

Nelson Ortiz P. FEPEC/CEDEN, Calle 44 No. 14-60, Bogotá, Colombia

Nittaya Passornsiri National Education Commission (NEC), Sukhothai Road, Bangkok 3, Thailand

Pilar Pozner Centro de Investigaciones Educativas (CIE), Zabala 2677, 1426 Buenos Aires, Argentina

Clara Rey de Ruiz Jardín Infantil El Portal, Calle 86 No. 8-55, Apto. 602, Bogotá, Colombia

Isaac Wüst Bernard Van Leer Foundation, Calle 78 No. 12-16, Apto. 102, Bogotá, Colombia

Introduction

Historically, preschool education has arisen in response to the needs of middle- and upper-income groups. It first made its appearance in developed countries, and later became part of educational systems in the Third World.

Formal education, especially at the primary level, has been persistently plagued by problems; preschool education has been viewed as a means of remedying the shortcomings of the academic system. The expectations for preschool education have been great, but there is not, as yet, any complete documentation as to whether or not these expectations have been met.

Over the last decade, preschool education has not developed into a widely accessible service. Furthermore, existing evidence indicates that the socio-economic distribution of children in preschools reaffirms social segregation and that it is the middle class that fundamentally benefits from this type of education.

Preschool education has developed along two lines. The first is tied to the formal education system and has traditionally focused on academic achievement. The second basically involves nonformal education and has centred on experimental programs that test different alternatives for the integral care of children during the first 6 years of life. The main feature of these programs has been to combine education with nutritional and health education and community involvement. These actions are aimed at building a preschool care system that serves as an effective instrument for social change.

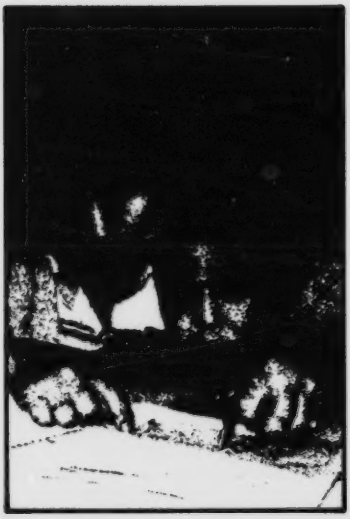
Although progress has been made, preschool education continues to be thought of as having a strong effect on preventing academic failure.

During the last 10 years, research on early education has flourished; however, in Latin America, no satisfactory answer has been provided on the question of the role preschool education plays in academic success. As a rule, research findings from other countries, especially industrialized ones, have been extrapolated for use in Latin America. This points up the need to conduct studies in our own countries; and this need becomes greater as preschools spread and grow in importance in Latin America. We must learn what true benefits can be reaped from this type of education. Furthermore, because the shortcomings of primary education persist, we must find new solutions to these problems.

Acknowledgments

The papers that make up the bulk of the case studies in this publication were presented at an international meeting on preschool research funded jointly by IDRC and the Ford Foundation in Bogota, Colombia, during May 1981. Several persons contributed to making this publication possible; Robert Myers and Kenneth King from the Ford Foundation and IDRC, respectively, organized the meeting; Johanna Filp proposed valuable suggestions for the objectives and themes of the seminar; Johanna Filp and Sebastián Donoso from CIDE, Chile, prepared the introduction to the book and the discussion and general recommendations section. Vera Kardonsky of the International Centre for Education and Human Development, Colombia, prepared the introduction and conclusions for Parts I and II. Stella de Feferbaum of the Communications Division of IDRC, provided technical editing for the Spanish version. Special thanks are expressed to each of these persons for their collaboration.

David W. Steedman
Director
Social Sciences Division
International Development Research Centre



Part I

Research and Action in Preschool and Primary Education

Introduction

This section covers the three research modalities analyzed and discussed in the seminar: research on the effects of early stimulation programs on childhood development, evaluation of the effects of preschool education on the children's scholastic achievement upon entrance to school, and studies of preschool education policies and programs in four developing countries. Also included in this section is the design of two preschool intervention projects, presently at the implementation stage, presented for analysis and discussion during the seminar.

Research on the effects of early stimulation on cognitive development shows different intervention strategies. In two research projects, (Bralic and McGregor) the only program component is the early psychological stimulation of the child. In the third, the intervention is multifocal and, in addition to early psychological stimulation, the children receive complementary nutritional and health attention (Ortiz). The agents that assume the role of stimulant for the child's development also vary according to the programs. In the preschool stimulation program (Bralic) and in the mother-child interaction program (Ortiz), the child development stimulative agent is the mother. In the Jamaican program (McGregor), the older siblings are trained to assume this function.

There are three studies that have taken place in Latin America whose object has been to evaluate the impact of preschool education on scholastic achievement upon entrance to school. In research carried out in Brazil some aspects of the educational process as well as the impact of preschool education on the child's learning ability upon entrance to school are evaluated. The studies in Chile and Argentina evaluate the impact of the preschool program on the children's learning abilities upon entrance to school and the influence of socioeconomic conditions on the children's scholastic performance.

Another work, by McKay and McKay, carried out in Colombia, analyzes the relationship between scholastic performance and the educational process in the programs that the children had received during preschool age.

The four case studies, Kenya, Thailand, India, and Turkey, describe the historical background and the socioeconomic contexts in which preschool education is carried out in these countries and analyze national preschool education policies and programs.

Development of Intervention Strategies for Young Children in Jamaica

Sally M. Grantham-McGregor[1]

In this paper the development of the Tropical Metabolism Research Unit's ideas concerning intervention strategies for young children will be traced. These ideas are largely the outcome of empirical findings in the field rather than of theoretical considerations.

Need for Intervention

In Jamaica, and most other Commonwealth Caribbean countries, the growth and health of young children from lower socioeconomic status backgrounds tend to be poor. Generally, children of more than 5 months of age suffer from frequent infections and inadequate diets, consequently, their nutritional status declines (Grantham-McGregor et al. 1972; Miall et al. 1970) and severe protein energy malnutrition (PEM) is still a problem (Anonymous 1978; Ashworth and Picou 1976). A recent survey (Powell and Grantham-McGregor, n.d.) carried out in a poor Kingston neighbourhood showed that by the Wellcome Classification (Anonymous 1970), 18% of the children of less than 48 months old were underweight and 1.9% were severely malnourished.

In spite of their poor health, nutritional status and social backgrounds, during the first year of life these children tend to have precocious psychomotor development compared with North American or British standards (Grantham-McGregor and Back 1971; Grantham-McGregor and Hawke 1971). This is similar to the situation reported for African children (Gerber 1958) who also have precocious development at this age.

There is little information available on children's development immediately following the first year of life. A longitudinal study of 60 children showed a drop-off in developmental level (DQ) between the ages of 12 and 36 months (Back et al. 1971). In 1979, in a neighbourhood survey referred to above, all children between 6 and 30 months old underwent developmental assessments with the Griffiths Mental Development Scales. Their DQs dropped off with age and the data suggest that the children's DQs decline in a similar way to that reported for Latin American poor children (Pollitt 1979). The Griffiths test has not been standardized for Jamaica, and there is a need for data from middle-class Jamaican children.

The Van Leer Foundation Center for Early Childhood Education has demonstrated that children from lower socioeconomic homes entering basic schools at 4 years of age are seriously behind middle-class children according to the Bettye Caldwell School Achievement Test (Wein 1971). There are also a large number of children who do not go to basic schools, and these children probably represent the most deprived groups.

The reasons for the fall in mental development are all too easy to hypothesize. The children are disadvantaged in many aspects of their environment, not only biological but also psychological.

In 1971, researchers at the Tropical Metabolism Research Unit carried out a limited survey of child-rearing practices in 75 families from a lower socioeconomic suburban neighbourhood of Kingston. In the study it was found that, generally, children had few toys and books, and their mothers had little idea of the importance of play. They saw play and toys mostly in terms of keeping the children out of trouble or, at best, keeping them happy. Very few mentioned that children could learn anything from play. They also tended to be restrictive, and water and sand or dirt play was strongly discouraged. The commonest play activities parents participated in were outdoor games and "rough-and-tumble" games.

[1]Tropical Metabolism Research Unit, University of the West Indies, Mona, Kingston 7, Jamaica.

Most mothers were very anxious for their children to do well at a school, but they had a poor understanding of child development. Consequently, many of them spent time teaching their children school-related topics, such as the times tables, which were usually inappropriate for their children's level of development. When asked what they thought their children would do when they left school, the majority had high aspirations, and professions such as teaching, nursing, and medicine were the commonest occupations mentioned. However, they had little idea of the educational steps necessary to obtain these aspirations.

First Home Visiting Program

The need for intervention programs was, and still is, obvious, and in 1971 the Unit began a pilot program with mothers and their 3-year-old children. Children under 4 years of age were chosen because many children in Jamaica went to basic schools at 4 years of age and the Van Leer Foundation Center for Early Childhood Education was already putting considerable effort into upgrading these schools.

The key issue to be addressed was, what type of intervention? No previous model in the Caribbean area was known except for a few day-care centres that tended to provide only custodial care, so North American models were looked to for guidance. At that time the Head Start programs were numerous and flourishing. A home visiting, maternal education model, which was mostly inspired by Susan Gray's work in Tennessee (Gray n.d.), was chosen. This seemed to be less expensive than other approaches, and reaching the mothers was essential and would provide the best chance of the benefits spreading to other children in the family and persisting for a longer period after intervention was stopped.

The project has been reported in detail elsewhere (Grantham-McGregor and Desai 1975), so only a brief outline will be given here. It was carried out in a lower socioeconomic suburban area of Kingston. Although it was poor it was not one of the most seriously depressed neighbourhoods. The study comprised an index group (20 children) and a control group (21 children). The index group was visited for an hour a week for 8 months, and most visits were carried out by a trained nurse. Mothers were shown how to play and interact with their children to promote good development. A new toy and book were demonstrated to the mothers and left in the homes every week. To save costs, the play materials were exchanged weekly and rotated around the families. Both groups were assessed on the Griffiths Mental Development Scales before and after the program. The index group showed a highly significant improvement of 10 intelligence quotient (IQ) points, whereas the control group declined on average three IQ points.

Implications

At first, such a marked improvement seemed impressive, considering the small input. However, when the implications were considered more fully it was realized that although the project was inexpensive compared with most North American models it was far too costly in Jamaican terms. There was simply no possibility of a poor country providing a trained nurse or someone of a similar educational standard to reach 20 mothers and their 3-year-old children on a wider scale. The materials also were expensive. The main positive finding from the study was that poor Jamaican mothers could be used as effective teachers of their children with relatively little assistance.

Malnutrition and Mental Development Study

After this study work began with children who were hospitalized for severe PEM. Birch, Richardson, Tizard, and Hertzig (Hertzig et al. 1972; Richardson et al. 1973; Richardson et al. 1975) had recently reported findings from a long-term follow-up study of the mental development of Jamaican children who were in hospital with severe PEM in early childhood. From 6 to 8 years after leaving hospital the previously malnourished children had lower IQ scores, lower school achievement levels, and more behaviour problems than their peers of similar socioeconomic backgrounds. Their findings were similar to those from other countries (Hoorweg and Stanfield 1976; Stoch and Smythe 1976). Although the precise mechanism of the lag in mental development is not clear, it would appear that poor mental development may be the most serious long-term handicap following severe PEM in early childhood.

Cravioto (1977) and Yatkin and McLaren (1970) had shown that when increased stimulation was given to children recovering from severe PEM in hospital their DQ levels improved significantly compared with other malnourished children. However, in both studies the stimulation

was not continued after the children returned home, and the advantages gained were soon lost (McLaren et al. 1973). McLaren concluded that the advantages gained were evanescent (McLaren 1975). However, more optimistic results were reported by Winnick et al. (1975). They found that the intelligence scores of severely malnourished young Korean children who were subsequently adopted by middle-class North American families reached or exceeded mean values of North American children several years later. These adopted children were, presumably, exposed to vast improvements in most aspects of their environment including health, nutrition, and stimulation — improvements that would probably be unavailable to many children in poor countries.

It was thought that a long-term home-visiting project, similar to the previous program with emphasis on maternal involvement, might be more successful than intensive stimulation in hospital. It was realized that there would be problems in working with malnourished children who came from exceptionally poor families. There were also many reports suggesting that their mothers were neglectful and less motivated and resourceful than other mothers (Botha-Antonn et al. 1968; Champakarn et al. 1968; Kerr et al. 1978). Another concern was that the children would need frequent health and nutritional supervision after they returned home from hospital.

A more cost-effective model was needed than that used in the first project, so community health aides (CHA) rather than nurses were used to do the visiting. These are government employed paraprofessionals who have completed primary education only and have had limited training in health and nutrition. They are also taught to assist in clinics and visit homes. Two of these visitors were trained in techniques of toy demonstration and developmental stimulation.

In addition, it became apparent that imported play materials were too expensive, sometimes irrelevant to the children's backgrounds, and not generally available in Jamaica; locally produced toys were also expensive and not of sufficient quality or variety to be used as substitutes. Therefore, a series of toys made out of waste materials was designed (Grantham-McGregor 1980a,b). In this way, by using homemade toys and community health aides the costs of home visiting were reduced.

The study design included three groups of children, all of whom were admitted to the University Hospital of the West Indies and were between the ages of 6 and 24 months old. There was a control group of 21 adequately nourished children who were in hospital for reasons other than severe PEM, and a malnourished group of 18 children; both groups received standard hospital care (Picou et al. 1975). A second malnourished group of 21 children entered the study 1 year later and participated in a program of increased stimulation. They were played with for an hour a day for 6 days a week when they were in hospital. When they returned home a CHA visited the child at home for 1 hour every week for the first 2 years, and then for 1 hour every 2 weeks for a third year. The intervention was stopped after 3 years. The focus of the intervention was similar to the previous project. The mothers were shown how to play with their children in ways that were likely to encourage optimal development.

All groups of children were evaluated at regular intervals with the Griffiths Mental Development Scales. The malnourished group that had no intervention were markedly behind the control group throughout the 3 years. They showed a significant but small reduction of their deficit by the end of the 3 years.

On admission to hospital both malnourished groups had similar mean DQs and they were significantly behind the control group. By the time the children left the hospital, all groups had improved but the intervened group improved the most. They were then significantly ahead of the nonintervened group and no longer significantly behind the control group. From then onward the intervened group showed a gradual improvement in DQ compared with both other groups up to around 12 months, when they leveled off. This was largely maintained up to 24 months.

The children have now been studied for 36 months and the new data are being analyzed. It is hoped that studies will continue on the three groups of children to determine what happens to the benefits gained by the intervened group after the visiting ceases.

Implications

This is the first time long-term intervention of increased stimulation with severely malnourished children has been reported and the findings are very encouraging. While working with malnourished children it has been surprising to note the amount of improvement that can take place in the individual child, indeed their development as measured by IQ tests seemed extremely malleable. In contrast, it is this very malleability that suggests that the children will drop off rapidly now that intervention has stopped.

The families were so poor that it seemed incongruous carrying toys into households where basic amenities were not available. Occasionally, a mother would comment on this, and it was surprising that more did not. Levine (1977) hypothesized that child-rearing techniques in societies with high infant mortality rates reflect survival strategies, and topics such as play and stimulation appear irrelevant to the mothers. While working amidst severe poverty it was easy to emphathize with these ideas.

There are many theories as to the etiology of the deficit in mental development shown by children who suffer PEM in early childhood. The improvement shown by the children in this study in no way rules out the possibility of brain damage. What happens to them now that intervention has stopped should provide a new insight into the problem.

Community Study

Several years were spent studying children who were severely malnourished, so the decision to move into preventative projects was a natural development. An approach was needed that would prevent children in poor circumstances from demonstrating the familiar drop-off in development.

The following considerations directed the choice of program. To design an approach that would be feasible to implement on a wider scale, it was felt that it would be more useful to build on to or to strengthen existing services, using available workers, rather than design services with new categories of workers.

Furthermore, it is important that programs are carried out under the same pressures and constraints that will be encountered in the field. When they are conducted under laboratory conditions, they may be irrelevant to the everyday situation. Where the health and nutritional status of the children is also in jeopardy it would appear to make sense, economically and practically, to address these problems as well as that of poor development in children in the same service.

Therefore, a home-visiting model was established using CHAs, based at a neighbourhood maternal child-health clinic. In this way it would be possible to determine whether or not developmental stimulation could be added to the usual health and nutritional home-visiting services of the clinic. The field supervisor was a nurse who also ran a weekly clinic.

The study comprised three samples. These were obtained by conducting a house-to-house survey in a poor area served by the clinic. All the children in that neighbourhood between 6 and 30 months of age were enrolled in the study to participate in intervention. They were divided into two groups, one group was to be visited monthly (50 children), another fortnightly (52 children). A control group (50 children) was selected from a neighbourhood a little distance away but of a similar socioeconomic level.

This study has now been in progress for 1 year and all children were assessed on the Griffiths Scales at the beginning and at the end of the first year. Some data are still being collected and some are not yet analyzed. Provisional figures show that both those children studied for comparison and those visited on a monthly basis suffered significant declines of eight to nine DQ points, whereas those visited every 2 weeks maintained their position. It would be premature to make definitive statements on the negative findings derived from the monthly visits, because many operational problems arose during the first year. Not the least was that Jamaica went through a period of unprecedented political and criminal upheaval. Against this background, the relative gains shown by the group that was visited every 2 weeks become more impressive.

The advantage shown by the fortnightly group is less than that shown in previous projects when visiting was done on a weekly basis. This suggests that, in this type of intervention, there is a fine balance between inputs and outputs, in terms of immediate short-term DQ gains. However, there were other differences between the inputs of the present study and previous ones apart from frequency of visiting.

Differences Between Research and Service Models

The whole structure of the program changes when you move from a research to a service model. The chain of supervision gets weaker, and the project is no longer dependent on the enthusiasm and even fanaticism of one person. The workers are not selected to work in a special program, but are carrying out their regular job. On the other hand, by the very nature of these changes, it becomes possible to generalize the results on a national basis.

With the change to a service model, modifications also had to be made to the curriculum. It was made more structured, and detailed instructions were drawn up for each visit, with teaching for mothers and children carefully specified. Previously, the visitors had more freedom of choice

in terms of their activities. Changes also had to be made to the materials; only toys that were easy to make could be included so some had to be dropped. A series of children's books was designed because they would have been too costly to purchase otherwise. However, the series has just been published in a special low-cost edition that will be used in the future (Grantham-McGregor 1981).

Many of the operational problems have now been solved and the community study will be continued to determine the relative effects of the frequency of visiting and the effects of beginning the study before or after 18 months of age. The plan to look at the long-term effects is also most important.

Other Models

There are two other models of intervention that I would like to touch on briefly. These are "child-to-child" and "backyard nurseries." The child-to-child approach is an attempt to reach young children at home by working through older children in school. The aims can be varied and include health and nutritional and developmental goals. The idea of working in schools appeared to be particularly appropriate for remote rural areas where visiting homes is difficult. Unfortunately, schooling is not compulsory in Jamaica, however, most children go to school some of the time. It is also culturally acceptable for older children to look after younger ones.

Over the last year a pilot project was carried out in a remote rural school. The focus was mainly on increasing the stimulation in homes, although dental care and immunization were also taught. The schoolchildren made toys in school and were shown what to do with the toys when they took them home. After 1 year, the schoolchildren's knowledge of all subjects taught improved markedly, and there is evidence that toys are reaching the homes and schoolchildren are playing more with their younger siblings. We were unable to demonstrate improvement in DQs of the siblings at home during the first year.

Here again there were many operational problems; poor attendance at school being the greatest. At this stage, it can only be concluded that teaching schoolchildren child care has obvious long-term benefits in terms of improving the quality of tomorrow's parents, and, as such, justifies inclusion in the school curriculum. It may also change behaviour in the home. More research has to be done on the possibility of giving immediate benefits to younger children in the developmental level and health and nutritional status. It remains a potentially useful model and is particularly appealing due to its low cost.

Hall in Jamaica has pioneered a program of upgrading backyard nurseries. These are private homes where the householder looks after the children of working mothers for a small fee. They appear spontaneously in the community as the need arises. There is an obvious need for this service, which again is relatively low cost. Unfortunately, the program has not been rigorously evaluated in that the children's development was not assessed and has always had funding difficulties. However, it was demonstrated that the standard of care given in these informal day-care situations can be improved, and the approach warrants further development.

The alternative form of day care is official day-care centres. These are larger centres taking at least 30 children from 6 to 48 months of age. They are mainly run by the government or local charities and are largely imposed from outside the community.

They have proven to be very expensive and as such are unlikely to reach a large number of children. There is no doubt that if they are well run with a sufficient number and quality of staff, they can make a large impact on the children's development. However, it is not easy to maintain this high quality of care.

In 1975, simple observations were made of staff communication with the children in three official day-care centres and three nearby backyard nurseries (Grantham-McGregor and Desai, in press). The quality of verbal communication was worse in the official centres than in the backyard nurseries. This was mainly due to the high proportion of controlling remarks and a small quantity of remarks addressed to children in official centres. With children under 3 years of age, there is obviously an inherent danger to their development in poor-quality, large-group care.

General Comments

The quality of supervision in intervention programs appears to be the key to success and needs to be standardized; for example, in the community study an evaluation instrument has recently been designed to be completed by the supervisor on a weekly basis when she or he observes the visits. Hopefully this will systematize the supervision as well as quantify the quality of the visits. It will also be used as a means of ongoing training for aides.

High crime is a problem in most big city slums. The use of paraprofessionals may ease this problem because they are more accustomed to being in depressed areas and are less fearful than highly trained professionals. However, the lower the educational background of the visitors, the more important the supervision.

Where large households characterize the culture, it may be useful to capitalize on this and actually enlist the help of all interested adults and older siblings in playing with and teaching the younger children. Similarly, the visits could include all younger children rather than just one target child.

Models of intervention from other countries may be useful in broad outline, but are unlikely to be appropriate in any detail. Economic constraints, child-rearing practices, available services and personnel, as well as other local conditions all demand specific and culturally relevant approaches.

At what age to stop intervention is a difficult question. The standard of some of the schools that the children attend is so poor that it seems improbable if not impossible for benefits gained to last. There is certainly evidence from the Cali study (McKay et al. 1978) that the longer the intervention the greater the benefit.

I have recently seen a report by Schofield describing a project in England directed by the late Jack Tizard (Schofield 1980) whereby mothers of 7- and 8-year-old children were encouraged to hear them read at home, and the teachers cooperated by sending home assignments. This had a marked effect on the children's reading achievement. The possibility of continuing projects in this way through the early years of primary school is attractive and should be explored further.

There is also the wider problem that any program with such restricted aims as improving the development of young children, is unlikely, in the short term, to make a considerable impact on the life of the community as a whole. The need for more comprehensive programs is obvious to anyone working in these neighbourhoods.

Future Directions

A large amount of data on intervention programs has now been amassed (Pollitt 1979). In spite of this, many questions remain unanswered, the most important one being what are their long-term effects. Many more questions remain, such as what is the best age to start, how long and how intense should the intervention be, and what is the cost effectiveness of different models. Because the need is immense it is important that research continues, and continues at a rapid pace. Bearing in mind that this is not an academic exercise there is one proviso: future research should be based on a service model and not an experimental one.

The question remains that in the presence of so many unresolved issues, is it premature to go into large-scale national programs, other than those of upgrading existing services? Failure of such programs could seriously set back the future of preschool intervention.

Finally it should be remembered that even if there is evidence indicating which model is the most effective, this does not necessarily mean it will be a success on a national scale. Any program that is instituted on an unsound basis, with inadequate supervision, insufficient staff with poor training, and inadequate resources is bound to fail even if the original model was excellent.

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Pilot Program of Early Stimulation: Follow-Up of Children at Six Years of Age

Sonia Bralic E.[1]

Background

Between 1974 and 1976, a Pilot Program of Early Stimulation (PEP) for children under 2 years of age was implemented in four clinics of the National Health Service (NHS) in the southeastern area of Santiago.

The results obtained were extremely positive, in terms of both the psychic development of the children and the efficacy of the techniques, procedures and personnel utilized, and the feasibility of its more general application (Montenegro et al. 1978). Consequently, in 1978, the Ministry of Health approved and set up guidelines for the inclusion of activities for the evaluation and stimulation of the psychic development of children under age 2 among the traditional health control services offered by NHS clinics throughout the country (Ministry of Health 1979).

Thus, in 1979, health personnel in the various regions began receiving the necessary training, and the clinics began receiving the materials they needed to carry out the activities mentioned.

Nevertheless, 6 years after the birth of the children in the sample for this pilot experiment, it became necessary to assess one key aspect of any short-term early intervention, namely, what is the observable long-term effect? In other words, is there any difference today between those children who received early stimulation until age 2, and those who did not receive this stimulation? If so, in what developmental skills or areas are they evidenced? What other variables play a part in altering the impact of early experience? The main objective of this study is to answer these questions.

Few early stimulation programs have continued to measure their effects after the initial intervention has been completed, to determine whether or not there are any medium- or long-term effects. This research flaw is paradoxical, considering that one of the principal motives for designing and implementing such programs has been to prevent the slow development of skills that presumably led to a high incidence of grade repetition and high dropout rates. It is, therefore, obvious that demonstrating the immediate efficacy of the programs is not enough. Their ability to improve conditions on entering school, lower the dropout rates, and sustain the progress of children from disadvantaged social sectors, must also be demonstrated.

What is known about other short-term early stimulation programs such as the PEP, with regard to the retention of positive effects once the program ends?

In the following paragraphs, the most relevant information available pertaining to this question will be examined, concentrating on programs for children under 2 years of age.

Forrester et al. (1971) obtained positive results following a program for low socioeconomic level (SEL) breast-fed babies from 7 to 9 months of age, based on home visits over a 6-month period. Six months later, however, no differences were observed after comparison with the control group. Lambie et al. (1974) report on a program for low SEL breast-fed babies, based on home visits, begun at 3, 7, or 11 months of age, over a 16-month period (in other words, until approximately age 2). When the program was completed, differences between the experimental group and a contrast group (with a different treatment) were observed, but none was observed with the control group. A year after the end of the program, the intergroup differences had disappeared (Binet). Also, no intellectual deficiencies were observed when these groups were compared with the average intelligence quotient (IQ) for the standard middle-class population. Gray (1977) writes of

[1]Centro de Estudios de Desarrollo y Estimulacion Psicosocial (CEDEP), Román Díaz 28, Of. 63, Santiago, Chile.

another program (Family-Oriented Home Visiting Program) for older children who entered at between 16 and 24 months of age and were from a low SEL. The program lasted 9 months and was based on home visits, intended to generate positive attitudes in the mothers toward the rearing of children of different ages. The follow-up carried out 2 years after completion of the program showed that all groups, including the control group, improved their IQ with time, and that intergroup differences were maintained.

There is no follow-up information on other studies of breast-fed children aside from the three already mentioned; for this reason, it would be rash to generalize, particularly as the results are, to some extent, contradictory: in one case, intergroup differences remained 2 years after intervention (no later information is available); in the others, after 1 year (or less) the differences had disappeared, although in one case, all of the groups achieved good development levels.

In this particular study, the PEP is a program for breast-fed babies that is discontinued when they reach 2 years of age. On the assumption that they receive no subsequent systematic educational intervention, earlier observations would suggest that their performance 4 years later would not differ from that of children who had not participated in any program in their preschool years.

However, it was expected that if early intervention such as the PEP were supplemented by some element of continuity in the educational experience (through nursery school) the condition of these children on beginning their elementary education would be better than that of children who received preschool education at a later stage.

In other words, it was expected that the actual performance of the children could be classified into three categories, from poor to good: (a) children without any preschool exposure, or who were stimulated only until 2 years of age; (b) children with delayed preschool education (after age 2); and (c) children with continuous preschool education right from birth.

These expectations will be expressed later in terms of the corresponding hypotheses.

Objectives of This Study

The aim is to determine the medium-term effects that the PEP has had on the psychic development of the participating children. The actual psychic development level is a function of various parameters selected according to two criteria. The first criterion concerns the content of the program in which they participated. As will be recalled (Montenegro et al. 1978), this content includes specific techniques for stimulation of motor, language, coordination and social skills, as well as general child-rearing standards to promote positive interpersonal relations and the normal current development of the children in these same areas and skills.

The second criterion, which is largely complementary to and consistent with the first, concerns the considerations made when designing the pilot program, with respect to the prevalence of sociocultural mental deficiency, learning disorders and school desertion in children from deprived environments. It is, therefore, of interest to determine to what extent the children who participated in the program achieved a higher intellectual level and were better prepared for entering the school system than those children of similar backgrounds who received no stimulation.

The general objective of this study can, therefore, be restated in the following terms: to determine the level of intellectual performance, the degree of basic skill development, the degree of social development, and the frequency of behaviour disorders in a group of 6-year-old children who were stimulated during their first 2 years of life, for comparison with children of the same age and socioeconomic background who did not receive this stimulation and who showed a significantly lower level of psychomotor development than the stimulated group.

Hypotheses

Given the objectives of this study, and based on the observations of other follow-up studies, the following general hypotheses were formulated: (a) there will be no significant differences between the stimulated group and the comparison group in the selected psychic development parameters 4 years after the program has been completed, (b) the performance of children who have been stimulated from an early age and who have received continuous educational intervention will be significantly better than that of children who enter an educational program at a later stage, and (c) the performance of children who were stimulated at an early age but did not continue preschool education will be comparable to that of children who received no educational intervention before entering the first grade.

Method

Sample

The original design of the pilot program randomly assigned the children to one of four experimental groups (EG). For the purposes of this study, EG 2 was excluded for a number of reasons.

An attempt was made to include in the three remaining groups all those children who had completed the pilot program (at least to 21 months of age). It was possible to locate 85% of them, the remaining cases being impossible to locate owing to change of address (11), death of the child (2), or failure to attend interviews (1).

All of the children were from a low SEL, were NHS beneficiaries, and reached age 6 between March and August of 1980, the period during which data were collected. The treatment received in the PEP and the number of children included in each group were as follows:

EG 1 (26): Children who received stimulation from their mothers (assessed by health personnel during home visits) and were evaluated on their psychomotor development for the first 2 years of life.

EG 3 (25): Children whose mothers received advice on physical health, through home visits by health personnel, and who were evaluated every 3 months on their psychomotor development for the first 14 months of life. Thereafter, they received the same treatment as EG 1.

CG (27): Children who did not receive any specific treatment, aside from being evaluated every 3 months on their psychomotor development for their first 2 years of life.[2]

The composition of the original groups proved uniform with regard to a number of socioeconomic, family, morbidity, and other factors (Montenegro et al. 1978:148–154). Family situations did not change uniformly in these 4 years, and some differences were observed in both the socioeconomic factors and other variables pertaining to child psychic development. Nevertheless, these differences seemed to be distributed more or less randomly, with one group being favoured in certain cases and hampered in others. In any event, none of these differences reached a statistically significant level (χ^2).

[2]As a reminder, although it may seem obvious, the development coefficient (DC) of EG 1 was significantly higher than that of the other two groups, from 3 months of age onward (with the exception of EG 3, which at 21 months was similar to EG 1, apparently owing to the stimuli in the final phase of the program).

In contrast, an extraordinary similarity among groups was observed with regard to the high percentage of children that had had preschool education and/or had begun their elementary education.

Upon selecting the sample for this follow-up study, the inclusion of a new control group was discarded as unjustified, in part because of the difficulties encountered in trying to select a group of 6-year-old children whose background during 1974–76 would be similar to that of the pilot program groups. Furthermore, it is assumed that if the original control group was not "contaminated" in the course of the program (Montenegro et al. 1978), and has received no special treatment between then and now, it may be used as a valid control group for the study.

Instruments of Measurement

Background Card: To update the information regarding the socioeconomic status of the families and record other relevant data characteristic of the sample and/or explain the results obtained regarding the children's current performance, a background card was prepared.

Wechsler Intelligence Scale for Children (WISC): An adapted version and Chilean norms for the age groups involved in the study were used to assess intellectual performance (Campazzo et al. 1962).

Basic Skills Test (PFB): This is a test developed and standardized in Santiago, Chile (Berdicewski and Milicic 1979), for children between 5½ and 7½ years of age and of varying SELs, whereby each child is placed within a specific percentile according to his or her visuomotor coordination, auditory discrimination, and comprehensive language skills. It is also used to predict the likelihood of good, average, or poor performance in reading and writing in the first and second grades.

Vineland Social Maturity Scale: For lack of a standardized social development test in Chile, the Spanish version of the Vineland test was used with the original norms (Doll 1953). Because the results are used for purposes of intergroup comparisons, the problem of standardization is largely avoided.

Child Behaviour Questionnaire: To determine the frequency of certain behaviour disorders in the children, a translated version of the preschool behaviour questionnaire, or PBQ (Behar and Springfield 1974), was used, adapted from a questionnaire by M. Rutter (1967) for schoolchildren. It has been used with North American preschool children and enables an analysis to be

Table 1. Average point ratings by test and by group.

Test group	WISC CIV	WISC CIM	WISC CIT	Vineland CS	PFB v.c.	PFB aud.	PFB c.l.	PFB Total	PBQ a.h.	PBQ a.d.	PBQ d.h.	PBQ Total
EG 1 (26)	95.4	100.0	97.3	118.0	5.4	15.5	10.6	31.5	4.8	3.2	2.6	12.0
EG 3 (25)	91.1	97.6	93.6	118.8	4.4	15.7	9.8	29.9	5.4	4.4	2.6	14.8
CG (27)	94.5	101.2	97.3	115.3	6.0	16.1	10.3	32.4	5.6	3.9	2.7	13.6

Note: The PBQ is the only instrument used where a higher rate is indicative of a lower developmental level (a.h.: aggressive-hostile; a.d.: anxious-depressive; d.h.: distractible-hyperactive; v.c.: visuomotor coordination; aud.: auditory discrimination; and c.l.: comprehensive language skills).

Table 2. Proportion of children by TIC categories and by group.

Group	Normal or above (≥ 90) (%)	Below normal (%)[a] Normal - slow (89 - 90)	Borderline (79 - 70)	% below normal
EG 1 (26)	76.9 (20)	19.2 (5)	3.8 (1)	23.1
EG 3 (25)	72.0 (18)	12.0 (3)	16.0 (4)	28.0
CG (27)	66.7 (18)	29.6 (8)	3.7 (1)	33.3

[a]No cases with IQ ≤ 69 were observed in any of the groups.

made in terms of the overall point rating (as compared with the average and standard deviation that "normal" children attain versus "disturbed" children), and in terms of partial point ratings with regard to three factors: aggressive-hostile, anxious-depressive, and distractible-hyperactive.

Other items regarded as theoretically and clinically significant were added to the PBQ to make it more discriminating through the use of a more all-encompassing scale. Because this questionnaire has been neither validated nor standardized in Chile, the same reservations as those held with regard to the Vineland test apply.

The tests were administered by five experienced psychologists, each of whom assessed children from the three groups studied, obviously without knowing to which group each child belonged.

Results

Effects of the PEP on Child Development, Measured Four Years After Intervention was Completed

From general hypothesis (a) four specific hypotheses emerged. Each refers to one specific aspect of psychic development. The averages obtained for each group in each of the tests appear in Table 1.

The intergroup variations were minimal and were not always even in the expected direction, as in the case of the PFB, where the control group was slightly better off than the stimulated group (EG 1). In none of the tests or their components, were significant statistical differences obtained.[3] Hence, in terms of general hypothesis (a), it confirmed expectations that 4 years after the conclusion of the program, no differences were found between the psychic development of the children receiving early stimulation and that of the children who received none. This is especially valid with regard to cognitive skills (WISC and PFB). As for social development, emotional and behavioural adaptation, a tendency in the point ratings in favour of EG 1 was observed, but not to any significant degree.

As no differences were found in the average point ratings, an analysis of the outcome of each test was made categorizing the children in each group according to whether they had high or low point ratings.[4] The results of organizing the data in this way are shown in Tables 2, 3, and 4. The

[3]Given the equal proportions of children with preschool education within the three groups, it was unnecessary to include this factor as a covariant, so the classical analysis method of the factor variance and Tukey's method of multiple comparison were used.

[4]The criterion was adjusted in each case to the nature of the test.

Table 3. Proportion of children by PFB point rating categories and by group.

Group	Probability of good reading and writing in 1st grade (%)			
	High (≥ 42 pts)	Average (41 – 30 pts)	Low (29 – 18 pts)	Nil (< 18 pts)
EG 1	3.8	57.7	38.5	0
(26)	(1)	(15)	(10)	(0)
EG 3	4.0	60.0	28.0	8.0
(25)	(1)	(15)	(7)	(2)
CG	11.1	51.9	37.0	0
(27)	(3)	(14)	(10)	(0)

Table 4. Proportion of children with normal ratings (± 1 SD), abnormal (± 1 SD), and borderline (zone of superposition between both SD) in the PBQ.[4]

Group	Normal (≤ 14)	Borderline (15 – 16)	Abnormal (≥ 17)
EG 1	68	12	20
(25)	(17)	(3)	(5)
EG 3	60	8	32
(25)	(15)	(2)	(8)
CG	65.4	0	34.6
(26)	(17)	(0)	(9)

[4]The "normal" and "abnormal" point ratings, as well as their respective standard deviation (SD), were taken from Behar and Springfield (1974).

analyses through χ^2 did not reveal significant differences in any of the cases.[5]

Finally, it should be pointed out that most of the children in each group obtained normal or above-normal point ratings in all of the tests. It is, however, not easy to determine whether or not these results correspond to those expected from the low SEL population. If the results of the WISC are compared with American norms (Wechsler 1949) it would be expected that 25% of the children would have an IQ of below 90. In this sample, EG 1 was slightly higher and the other groups slightly lower than expected. If, on the other hand, these are compared with the results of studies done among schoolchildren in Chile (Gazmuri et al. 1975), 26% of the children from low SELs would be expected to have an IQ of below 80. The results of this study were distinctly better than that, and, in the case of EG 1 and CG, were closer to the levels expected from middle SELs (4%).

As for the PFB, the standardized data (Berdicewski and Milicic 1979) help to confirm that the point ratings obtained by the study groups were very similar to those expected from low SELs attending nursery school. The same is maintained with respect to a recent study (Filp 1980, personal communication).

[5]The Vineland test was omitted, because there were practically no point ratings <90 in the sample (EG 1:1, EG 3:2, CG :0).

With regard to the Vineland test, as already mentioned, only three children in the entire sample had an IQ of below 90. Unfortunately, there are no reference figures available for the PBQ that would help to determine whether the results were better or worse than would be expected for the overall population.

On the whole, it seems that the only possible conclusion, given the available data, is that the current performance of the groups in the basic skills test is consistent with that expected for their SEL. As for their intellectual level, it appears to be somewhat higher than expected (especially for EG 1).

Effects of Early and Continued Educational Intervention on Child Psychic Development

As explained in general hypothesis (b), some interrelation between early stimulation and preschool education was expected. In other words, it was expected that children who had been stimulated from birth, and who had continued with preschool education, would obtain higher point ratings than children who entered a preschool program at a later stage.

Children with "preschool education" were defined as those who had attended nursery school for 1 or more years before 1980, regardless of whether they had continued with preschool edu-

cation or had reached grade school level.

The size of the sample did not permit a more specific subdivision according to the years of nursery school attended. Consequently, in the case of EG 1, the effect of continued intervention was diluted, as children who received stimulation in their first 2 years of life and then directly entered nursery school were placed in the same group as children who only entered nursery school 1, 2, or 3 years later. In other words, this grouping of data presupposes that early stimulation maximizes the effects of subsequent preschool education, even though there is no continuity between the two systems.

To study the effects of interaction between the factors mentioned, an analysis of unweighted averages (Glass and Stanley 1974) was made, in relation to the WISC and PFB only, as further analysis of the Vineland and PBQ tests was not justified, because the averages obtained for children with and without preschool education were so close.

The averages by test and by subgroup are presented in Table 5, and the results of the respective analyses appear in Table 6.

On the one hand, these data confirm what has already been stated — that no significant effects of early stimulation are noted. On the other hand, they do not confirm that there is any impact of interaction between early stimulation and preschool education, at least not as it was measured (that is, without confirming any continuity between the two).

Table 5. Average point ratings of children with and without preschool education, by test and by group.

	Without preschool		With preschool	
Group	TIC	PFB	TIC	PFB
EG 1 (26)	94.8	26.5	98.5	33.7
EG 2 (25)	90.0	27.2	95.9	31.7
CG (27)	92.0	29.6	100.9	34.3

Finally, a principal effect of preschool education appears to be particularly significant in the case of basic skills, i.e., those children who attended nursery school for 1 year or more before this evaluation was made, obtained higher point ratings than those children who did not, regardless of whether or not they had received psychosocial stimulation in their first years of life.

From this same analysis, it emerges with regard to general hypothesis (c) that, if educational intervention is interrupted at 2 years of age, the results achieved in the course of the program disappear, and the performance of these children 4 years later is comparable to that of children who had no preschool experience.

Discussion

When this study began, the elements of theory and the information available allowed us to predict, to a large extent, the results we eventually obtained. Nevertheless, it is always painful to discover that the effort devoted to a successful program does not solve everything and that, on the contrary, a still greater effort is necessary.

The results indicate that the PEP, although successful when implemented, left no apparent traces in either the children's intellectual or socioemotional development 4 years after the end of the experiment. This means that no significant intergroup differences were observed when comparing children with early stimulation with those with none, in terms of psychometric assessments of intellectual performance and socioemotional adaptation at 6 years of age. Nor were differences noted in related variables, such as the percentage of children with preschool education or entering grade school, the percentage of malnutrition, and so on.

To assess the validity and reliability of these results, the procedures used to select the sample and collect the data must be looked at first. In this respect, there are three factors that deserve special mention, because they raise relevant questions.

Table 6. Results of unweighted averages analysis.

Cause of variation	P	WISC			PFB (Tot.)		
		MS	F	df	MS	F	P
Preschool education (A)	1	56.42	4.883	0.05	44.83	14.145	0.001
Early stimulation (B)	2	8.77	0.759	n.s.	3.365	1.062	n.s.
A x B	2	3.275	0.284	n.s.	1.13	0.357	n.s.
Without limits	72	11.554			3.1694		

The first refers to the cases of "desertion," that is, to those children who, after having followed the PEP to the end, could not be located for the present evaluation. When one examines the DCs of these children in the last months of the PEP, it is noted that in the case of EG 1, they were somewhat higher than those of the children in this study's sample; inversely, in the cases of EG 3 and CG, the DCs were lower or equal (respectively) to those of the children in this study's sample. Obviously, the DCs of the groups of children in this sample differed from each other in those months, so that they may be considered representative of the original groups. But in any event, it is disturbing to note that desertion in the cases indicated may have helped "equalize" the three groups studied to some extent. Naturally, the consequences of this for a study made 4 years later are not clear, considering the lack of consistency or stability in the psychic characteristics during the period of development and, specifically, in the limited correlation observed between the DC and IQ.

The second factor that affects the conclusion drawn from these results, pertains to the absence of a control group not related to the pilot program. It is clear that the data contributed by this external control group would not modify the intergroup differences (or lack of differences) observed, but they would enable us to determine how representative the groups studied were of the low socioeconomic level they came from. It should be clarified, therefore, whether the mere fact of having participated in the PEP in any capacity (experimental or control), influenced the current psychometric characteristics of the children or any other indicators of the quality of life within the family unit.

It is surprising to note the extremely high number of children with preschool education within the three groups studied (about 70%), as compared with the figures for the entire country (about 13%). It is not certain whether or not this phenomenon is in any way related to the PEP (it could provide parents with greater motivation to educate their children), because among the selection criteria of public-sector nursery schools priority is given to indicators of poverty, malnutrition, and so on, rather than to the parents' interest in enrolling their children.

A third factor that leads to the qualification of some of the results is the use of tools that have been neither validated nor adapted to the population to measure the development and socioemotional adaptation of the children. Such practice is usually justified (as done here) by reasoning that, although the tool is imperfect, it can be used to establish intergroup differences, as long as all are measured by the same standard.

Nevertheless, the results obtained lead to the consideration of this assumption more closely. On the one hand, the Vineland scale does not sufficiently distinguish individual differences, at least not in this age group. Only three children in the entire sample obtained quotients just under 90, and the vast majority obtained point ratings far higher than expected for their age (71% of the entire sample obtained quotients above 110). With respect to the behaviour questionnaire, on the other hand, the percentage of children with "disorders" or defined as "borderline" was clearly lower than the percentage based on information from the parents regarding the behavioural disorders of their children. It is true that this last datum includes all ages between 2 and 6, whereas the first restricts itself only to the last year. Even so, the question remains as to the capacity of the PBQ to discriminate between children with disorders and those without who are among the low SEL population of Chile, and the capacity of the parents to report reliably on the behavioural disorders of their children.

Now that the need for caution in some areas that could affect the validity of the results obtained has been stated, the significance of these same areas must be considered and possible explanations that could serve as guidelines in future should be sought.

First, as noted the best results were obtained by children with preschool education, and the fact that they were stimulated during the first 2 years of life did not contribute to their current developmental level. This should be interpreted in light of two facts. First, the hypothesis that states that the benefits achieved during the PEP disappear unless the program is followed up by some other systematic educational intervention was confirmed. This explains why the point ratings of these children were actually comparable to those of children with no educational experience. Second, the definition of "preschool education," for the purpose of this study, includes children who attended a nursery school for between 1 and 4 years. That is to say, it includes children who experienced *continuous* educational intervention from birth until age 6, as well as others who were stimulated up to 2 years of age but who began preschool education after a lapse of 1, 2, or 3 years between programs.

Therefore, if a total interruption of educational intervention is translated into a loss of any progress made, why should it be expected that further intervention after a more or less long interruption would be "enhanced" by positive

although long-past experiences?

Also, to the interruption of the PEP may be added other factors, which may heighten its effects. One is that during the first 2 years fairly radical changes occur in the child: the learning of speech and sphincter control definitely add to the independence already achieved with the child's first steps. They leave behind, to a large degree, their "baby" status and become more "adult," demanding from the adult quite different forms of interaction.

This objective change in the child, and the accompanying change in the perception, expectations, and demands of the parents in relation to the child, occur precisely at the time when the PEP ends. The parents who, for 2 years, have continually been receiving information and guidance about their child's development, suddenly find themselves left to cope on their own just as they are faced with this "new" child.

This series of factors may help to explain the change in the child-rearing conduct of the parents during the PEP, or their inability to promote psychic development during this new stage of life.

The size of the sampling did not permit comparisons of subgroups in terms of preschool exposure. It seems evident that continuity between preschool and grade school programs is a factor that influences the condition of children on entering the latter system. But given the above limitation, this study does not provide enough information to enable us to reach a conclusion as to the advantages of starting continuous preschool education right from the first months of life, at least not *with respect to the dependent variables measured*.

The italicized phrase prompts analysis of one aspect that is of the utmost importance. The fact that certain parameters were used to measure the long-term impact of the PEP, does not imply that they cover the entire range of possible effects. Aside from the previously stated problem of the continuity of early intervention, other questions that remain unanswered will be mentioned by way of examples.

Why had so many of the children from the sample attended nursery school? Why were the effects of preschool education statistically significant in this sample and yet not observed in other studies? Is it that the children that participated in the PEP have some common characteristic that distinguishes them from other low SEL children? Will the incidence of grade repetition, dropouts or entry into special education programs be the same for these children as for those who received no early stimulation?

What do we know of parental expectations regarding the children's scholastic achievements? What can we say about their attitudes toward the rearing of other children after their participation in the PEP? How does the strategy employed in the PEP affect the concepts the parents have of their role, their own capabilities, and the success they can achieve?

It is probable that whatever effects the PEP produced in the children or their family unit, they disappeared after the termination of the program as a result of its discontinuation. This more than confirms the need to provide parents with *ongoing* assistance in their role as educators, so that their children's development may progress normally from birth through all stages of life.

This discussion cannot be concluded without mentioning that activities for stimulating child psychic development have been incorporated into the traditional system of health services in Chile as a result of the PEP pilot program.

On the one hand, this means that the concept of health has been modified substantially, making it more comprehensive and covering not only physical but psychic and social aspects as well. The degree of awareness attained about the first years of life and the possibility of influencing child development is bringing about positive changes in the attitudes of experts facing the problem, in the information given to the parents, in the role assigned to them, and, lastly, in the quality of life of the family unit. At the same time, the widespread practice of periodically evaluating the child's psychomotor development will also make possible the early detection and treatment of biological disorders such as organic-cerebral charts, sensory disorders, and so on.

On the other hand, however, the results of this study should serve as a warning not to be content with what we have accomplished, not to believe naively that we have ensured our children's future. As in the field of physical health, activities to promote mental health should reach all ages, because the risks, although they differ from age group to age group, are ever present.

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Psychosocial Stimulation and Complementary Nourishment During the First Three Years: Its Repercussions on Scholastic Achievement

Nelson Ortiz P.[1]

Introduction

Any analysis of the education problem cannot overlook the social context in which it develops. Theoretic work done in both the field of sociology and the field of economics, concerning the relationship between education and the structural determinants of a specific society, abounds. Some argue that education is the instrument that permits mobility within the different strata of a society. Others argue that it is class structure that determines the differences in accessibility to education and the dynamics of the education system in general (Cataño 1978; Mojica 1978).

It would, therefore, be naive to try and analyze the relationship between preschool education and primary education in Colombia without outlining at least some of the determinants and social conditions into which the majority of Colombian children are born and develop.

There are already numerous detailed studies in Colombia about the social disadvantages of the population. The high dropout rates that, between the first and fifth grades, reach as high as 65% are a known fact. The staggering proportion of undernourished preschool children has been determined (Mora 1979), as have the high rates of child morbidity and the unstable income of the vast majority of the population, who also lack adequate essential services and face undernourishment. The possibility of becoming part of the society's productive apparatus is also limited, as reflected in high unemployment or underemployment rates and low levels of education (Cerdá 1980).

Although it is true that in Colombia child problems have been the object of major efforts on the part of the state, it is also true that the problems remain and that new intervention alternatives must be found.

Primary Education and Preschool Education in Colombia

Some observations are given that serve as a framework for research and are fully documented in the works of other researchers (Alzate and Parra 1976; Bossio 1977; Cerdá 1980; High Scope Educational Research Foundation 1978; Martínez 1977; Medellín 1977).

Primary Education

In recent years, the Colombian government has made great efforts to generalize primary education. More than 70% of the school-age population currently attend school (High Scope Educational Research Foundation 1978). However, this figure, which for some could be significant, is less impressive given the alarmingly high dropout and failure rates. Although more recent data are unavailable, in 1977, the dropout rate between the first and fifth grades reached 65%, rising to 87% in rural areas (Ministry of National Education 1978). About 50% of these dropout cases occur during or toward the end of the first grade and one-third more during the second grade.

[1]Research Division, Nutrition Branch of the Instituto Colombiano de Bienestar Familiar (ICBF) and Adviser, Centro para el Desarrollo de la Educación Formal (FEPEC CEDEN), Calle 44 No. 14-60, Bogota, Colombia. This research was partially financed by the Colombian Institute for Family Welfare; the National Institute for Growth and Human Development of the United States (Grant No. 3R01-HD06-774-01A1S1); The Ford Foundation (Grant No. 740-0348); the Department of Nutrition, the School of Public Health of Harvard University; and the Faculty of Interdisciplinary Studies, Javeriana University.

Thus, the first 2 years of elementary school, especially the first, are critical for keeping the child within the school system and, thus, determine the future of coming generations. This is particularly true for marginal groups where the problems of dropping out and failure are most pronounced.

In Colombia, there has been much speculation as to the reasons for academic failure and dropouts, but the methods of combating these problems have been varied and erratic. Changes have been made in the teaching programs and strategies. It is assumed that the teachers lack proper training. Reference is made to the social problems that force the family to send the young ones out to work to supplement their unsteady income. Yet, despite this variety of factors, which supposedly interact with each other, the search for solutions has been concentrated almost solely on the quality of education itself, rather than on the characteristics and background of the school population, the raw material of education.

The country's education policies have concentrated on improving the student-teacher ratio, offering more courses, increasing the number of classrooms, and raising the level of teacher qualifications (Chiappe 1980). Although it would be easy to show quantitatively that these areas have improved over the last few years in Colombia, it would be worthwhile, when objectively evaluating these claims, to keep the following observation of Piaget in mind: ". . . these positive aspects of the development of education must not make us forget the problems which remain with respect to the efficiency of the means employed. If we consider the problem only from the quantitative standpoint, we run the risk of distorting the picture. For we have yet to prove that its indefinite extension corresponds to a success or a victory for education." (Piaget 1970:83).

In this respect, it is surprising that despite the acknowledgment of Colombia's high dropout and failure rates, and but for a few isolated initiatives (Alzate 1976; Alzate and Parra 1976), there has been little or no research into the characteristics and background of the child, factors that could explain his or her academic performance. Studies need to be done that would enable us to determine the characteristics and needs of our preschool children in their various habitats, and, what is more pressing, to develop a philosophy of education and preschool care, with clear goals and objectives (Bossio 1977).

Preschool Education

Although the first centres oriented toward care for preschool children appeared in Colombia some time ago, it was not really until 1960 that preschool became part of the national education system (Bossio 1977; Martínez 1977).

Perhaps the major problem of preschool care in Colombia continues to be its limited implementation. Although the preschool enrollment rate has increased considerably (160%) over the past 20 years, it is still quite low considering the demographic growth of the preschool-age population. It would also be unrealistic to think that such care meets the needs and demands of the child population, because it affects only 4% of an age bracket (Cerdá 1980) that constitutes at least 20% of the country's total population.

This problem appears even more serious when one considers that the vast majority of existing preschool centres are run by the private sector. In 1975, only 32.7% of centres were government operated. It has been justifiably said that in Colombia "preschool education is becoming a privilege of those social classes which can pay for it in private establishments" (Medellín 1977).

Although over the past 5 years preschool care for the less-advantaged classes has become more widespread through the efforts of the Colombian Institute of Family Welfare, the numbers reached through these centres is insignificant compared to the magnitude of the problem.

Also, preschool education in Colombia faces numerous as yet unresolved problems. Theoretically, and only in separate legislation and a few guidelines, formal education now begins at the preschool level (Medellín 1977). However, there is a shortage of human resources, the equipment of the few government-run centres there are leaves much to be desired, and there are no clear-cut objectives that could be considered national standards. Proper technical supervision is also inadequate and functions are redundant and conflict with the various institutions responsible for orienting the programs. In short, the development of preschool education has been chaotic and impulsive, and has often ignored existing legislation (Bossio 1977; Cerdá 1980; High/Scope Educational Research Foundation 1978).

Preschool Care and Primary Education: Two Points on a Continuum

The inclusion of the concept of *care* in the heading is a deliberate change intended to reflect a different or at least a broader concept of the possible relation between what happens to children before they enter school and their performance in school. We want to go beyond the simple attribute "formal" applied to the preparation

or maturing process for academic learning, because the preparedness for learning is the outcome of the constant and lasting interaction of children with all those biological and social elements that condition their growth and their social and cognitive development.

It has been correctly stated that preparedness for academic learning develops gradually, that there is no specific age or state of overall maturity that guarantees success in handling the academic situation, but only levels of development of the basic psychological functions involved in school learning experiences (Condemarín et al. 1978).

The child's performance in school is one factor that depends on his or her overall level of development, and this development is a process that in turn depends on the environment in which the child develops and on the learning opportunities provided or prevented by that environment.

It has been suggested that the traditional school is not equipped to make up for the immaturity and late development that many children of depressed socioeconomic levels show in cognitive and psycholinguistic functions essential to further academic learning because the curricula are based on models of "normal" development that do not correspond to the psychological and cultural reality of the children or with their deep individual differences (Bravo 1979). This suggestion is supported by theories that base the development of intelligence on natural and spontaneous processes, which can be used and accelerated by, but do not depend on, education within the family and at school but are, rather, the necessary prerequisite to all learning (Piaget 1970).

It has already been possible to identify variables of a biological (nutrition, health) or psychosocial nature pertaining to the children themselves or to their family or social environment, which affect their academic achievement. The research done in recent decades, has revealed a persistent statistical relationship between child malnutrition, which is widespread in Colombia, and deficient cognitive functioning (Mora et al. 1976). It has been found that the intellectual performance of undernourished children is usually accompanied by learning difficulties and poor scholastic achievement (Cravioto et al. 1967). It is felt that the development of the thought processes is a prerequisite to the learning of reading, because reading is not only the ability to distinguish visually letters and symbols but is also a cognitive process involving comprehension of the verbal meanings. It is known that the development of reasoning powers is necessary to grasp the concept of numbers and do calculations (Piaget and Inhelder 1967). In short, there is sufficient information about the background and characteristics of the child as determining factors of his or her scholastic achievement.

Within this evolving context, it is logical to think that the development of the skills and abilities needed for scholastic success cannot be limited to a formalized institution that itself has been the object of much criticism and controversy (Bossio 1977). Why not look at the environment outside the school? The stimulation a child receives in his or her home environment is also preschool experience (Condemarín et al. 1978).

A number of research projects in Colombia involving children under 7 years of age, have concentrated their efforts on the design and testing of strategies aimed at preventing and or overcoming physical underdevelopment and generally slow development associated with malnutrition and multiple environmental deprivation. The last decade produced much of this type of research – the Instituto Colombiano de Bienestar Familiar (ICBF) Malnutrition and Mental Development Project, the Project of the Cali Human Ecology Foundation, the Centro para el Desarrollo de la Educación Formal (FEPEC CEDEN) Gifted Children Project, the La Playa Preschool Care Project, among others – and it would perhaps not be rash to state that it all produced enough evidence of the benefits of intervention at an early age in the promotion of better levels of growth and development.

Many doubts and new questions have, nevertheless, been raised. Questions regarding the relevance and duration of the long-term effects remain unresolved. Researchers are now faced with the challenge of determining the feasibility of applying strategies tested in experimental projects of limited scope to the reality of the many who need attention.

There has been much and valid criticism of the measurement methods used to assess the effects. Most projects used general intelligence tests as instruments for measuring the mental abilities of the child and as parameters for assessing the impact of the intervention. However, there has been doubt as to whether there is really evidence of slow development in children from certain environments, as the intelligence tests show, or whether their development patterns are qualitatively different because they have lived in environments that require the development of totally different skills and abilities (Montenegro 1979).

Now, evaluation models that emphasize the use of parameters of social competence have been proposed, as these may be more useful in assessing the development of children in community

studies and in detecting the impact of the intervention programs (McClelland 1973; Zigler and Trickett 1978).

Under these conditions, it would be more important to determine the impact of early intervention on the development of basic processes that may have an identifiable relation with the child's later development given the specific needs of his or her environment. These and other considerations have brought about significant changes in the design and application of research projects involving preschool children in Colombia, of which the Malnutrition and Mental Development Project is one.

Research on Malnutrition and Mental Development

What follows is a brief account of the research on malnutrition and mental development, whose longitudinal sample forms the basis of the results described here.

Research Summary

The research has been going on in Bogota since 1969. The first 2 years constituted the pilot phase during which personnel were trained; measurement instruments in the areas of nutrition, sociology, and psychology were designed and tested; detailed studies were made of the problem of malnutrition and intellectual development among city children; and various methods of intervention in complementary nutrition and psychosocial stimulation at an early age within the family were also tested.

The studies conducted during the pilot phase showed that the incidence of slow development in the study sample was twice as high as that recorded for industrialized countries, that this incidence was higher the lower we went on the socioeconomic ladder, and that there was a lasting statistical relation between malnutrition and slow development in infants and preschoolers (Mora et al. 1976). It was possible to show statistically that malnutrition is a contributing factor to slow cognitive development, but it was also shown that there are other socioeconomic and cultural factors that contribute significantly. These factors are related to child-rearing practices and reflected in the abundant or limited opportunities for environmental stimulation that interaction between the family and the child provides. It was felt that the prevention of slow development would have important practical implications, because it would affect a large proportion of the children in poor communities. It was, therefore, decided to conduct a longitudinal intervention study with the following overall objectives: (a) to assess the effects of intervention programs of food supplementation and early stimulation on the prevention of slow development in the child and (b) to study the relationship between child nutrition, environmental stimulation, morbidity, growth, and development (recently, a proposal was submitted for the continued study of these factors and their relation with academic achievement).

The longitudinal study was begun in 1973 with a sample of 456 families presenting a risk of malnutrition and selected according to two criteria: pregnancy of the mother before the third trimester and malnutrition of children in the family under the age of 5 years.

All the selected families, who voluntarily entered the program, had been receiving the benefits of a health assistance program and had been the object of a number of random observations and measurements regarding nutrition, health, social variables, and intellectual development.

The experiment's design consisted of a study of intervention that combined a complementary nutrition program (of varying duration initiated at different stages) with a program of early psychological stimulation. The families were randomly assigned to the following treatment groups: (a) control group, (b) complementary nutrition from 6 months old to age 3, (c) complementary nutrition from the 6th month of pregnancy to age 6 months, (d) complementary nutrition from the 6th month of pregnancy to age 3, (a1) early stimulation from birth to age 3, and (d1) complementary nutrition from the 6th month of pregnancy to age 3, plus early stimulation from birth to age 3.

The health program offered prenatal and delivery care as well as free pediatric medical attention, including medication. This care was offered continuously.

The complementary nutrition program consisted of the weekly supply of food to cover the nutrition deficiency of the whole family. The nutritional contribution of these supplements varied between 600 and 800 calories and between 23 and 30 g of protein a day.

The early stimulation program was carried out directly in the homes in the form of two 1-hour weekly visits to each family by trained inspectors to motivate the mother or caretaker to follow the child's development and to demonstrate a number of activities aimed at prompting changes in child-rearing practices, especially in mother-

child interaction. The activities were designed to provide children with more opportunities for positive interaction with their physical and human environment. The basic objective was, then, to stimulate the child's development within his or her own environment and change the patterns of interaction between the child and caretaker so that stimulation could continue in the inspector's absence. Exercises and games were used for direct stimulation of the child, using readily available objects and materials made by the inspectors or the mothers themselves (Ortiz et al. 1979).

All of the families that participated in the longitudinal study were the object of assessments in different areas; periodic sociological surveys, longitudinal records of the health and morbidity of the mother and child, nutritional assessments, and growth and development measurements of the children.

Research Results

The research findings were that the effects of intervention on different areas of development and ability in the child are favourable. Favourable effects of early stimulation were noted not only in the interaction patterns between mother and child in terms of the better quality and quantity of these interactions (Ortiz et al. 1979), but also in specific development areas such as language, social, perceptual, and motor skills. Also, the complementary nutrition had benefits not only for physical growth (Super et al., in press) but for behavioural areas related to perceptual development as well (Condemarín et al. 1978).

These results and others documented before this research prompted the exploration of the possibility that intervention has a favourable effect on the readiness for school and academic performance of the children studied. The activities of the stimulation program stressed certain areas that have been recognized by some authors as essential to later learning. The sensorimotor period (covered within the program) has been recognized as a determinant of subsequent development. Hence, it is logical to assume that intervention during this period not only has immediate effects but also prepares the child for future learning.

Throughout the stimulation program there was a notable increase in the child's opportunities to develop basic skills (perception, language, object classification, spatial development, gross and fine motor skills, and so on) and abilities recognized as prerequisites to good academic performance (Cohen and Gross 1979). The stimulation program promoted positive changes in the attitudes and behaviour of the mother and other family members toward the child. This leads to the assumption that the general family environment provided better conditions for the child's overall learning and that the mother became an element of reinforcement of this progress. Literature on child development emphasizes the importance of all these aspects to the child's preparedness for school and it is, therefore, expected that the children involved in the program were better prepared on entering primary school.

The foregoing statements and the conviction that the study sample, because of its longitudinal nature, represented a unique and ideal opportunity to study the various data that may be related to academic performance, as well as to determine the possible effects of early-age intervention on the level of readiness and scholastic performance, prompted a follow-up of school-age children with the following objectives: (a) to assess the academic performance in the first years of primary school of children of low socioeconomic levels in the southern part of Bogota; (b) to study the aspects of the children, their family, and school environment associated with their performance; (c) to measure the impact of complementary nutrition during pregnancy and the first 3 years of life on the children's health and nutritional status and on their academic performance; (d) to assess the impact of early psychosocial stimulation provided by the family on the children's competence in primary school; and (e) to study the effects of the programs on other variables that may affect the children's performance, such as study habits, environmental conditions for learning, and family participation in the learning process.

Because the same basic design of the experimental phase of the project was used to conduct the study, it was possible to compare the characteristics of the different groups on entering school, with regard to the family and individual variables of the children, i.e., their physical growth, health, intellectual development, to behaviour regarded as essential to academic learning. By means of these comparisons, it will be possible to assess the long-term impact of intervention programs on the variables associated with scholastic achievement. For the purposes of follow-up while the child is in school (the first 2 years), such areas as health, socioeconomic variables, physical growth, eating habits, and direct assessment of academic achievement will be measured.

Thus far, only a few incomplete data about the behaviour of children entering first grade have

been collected. Although these results show some effects of early stimulation on the children's level of preparedness, given the incompleteness of the data, it would not be wise to draw conclusions. The following conclusions are based on consideration of preliminary results of the study and others that regard the areas that benefit by intervention as important prerequisites to scholastic learning.

Conclusions

- Stimulation at an early age promotes the acquisition of skills (language, social development, attention, discrimination, and others), elements that may benefit the child's competence and performance in school.
- Psychosocial stimulation through the mother or caretaker promotes positive changes in the interaction between the child and his or her caretaker, in terms of the quantity and quality of the interaction. It is hoped that this might help ease the learning process and improve the child's performance in school.
- Although early stimulation programs have proven to have favourable effects on cognitive development and other aspects that may be related to a child's future learning in school, the fact that his or her performance is also conditioned by what goes on inside the school itself cannot be ignored. Therefore, the need for further research in this area, which has been rather neglected by Latin American researchers, is a priority.

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Primary School Progress After Preschool Experience: Troublesome Issues in the Conduct of Follow-Up Research and Findings from the Cali, Colombia Study

Arlene McKay and Harrison McKay[1]

The Cali study is to date the only systematic research program in the developing world that has worked with children of extreme poverty conditions for varying durations of time during the preschool years, providing them with integrated programs of attention to foster both physical and psychological development, and measured the outcome for a follow-up period of more than 3 years. We believe that it is important to document not only the quantitative results but also the experiments that characterized the follow-up study. This paper will focus on one quantitative aspect of that research, school success during the first 3 academic years, and describe the context in which the study was initiated and carried out; the latter is important for the interpretation of present data as well as for the clarification of the complex relationship that exists between preschool and primary level programs and may be of value in helping define future studies. Also presented are some of the reasons that prompted research at the preschool stage as well as the follow-up phase.

The initial research in Colombia grew out of a concern about the effects of malnutrition on the psychological and physical development of preschool age children. The research of the late 1960s was aimed at measuring the impact of nutritional intervention on the cognitive development of children to, as one medical doctor phrased it, find a direct relationship between kilograms of weight gained and intelligence quotient (IQ) points raised. However, none of the studies was able to isolate a clear effect of nutritional rehabilitation on children's cognitive performance. Early work in Cali was designed to determine the degree to which malnourished children from extremely poor backgrounds might respond to short-term interventions designed to improve their cognitive and motor ability as well as their health and nutritional status. Initial results indicated that preschool age children, as they were recuperating physically, could improve their cognitive abilities in the short term; a finding consistent with the first results of experimental preschool programs for disadvantaged populations in the United States.

Information about programs for preschool children from poor backgrounds around the world documents many kinds of action undertaken for them or their families. It is also clear that demand is growing for preschool programs for a number of reasons including the need for the mother to work, the increase in single parent families, and the growing desire for the children to have a sound basis for future success, which the parents believe preschool programs provide. However, for information about the long-term effectiveness and the relationship between preschool and primary education, apart from the studies being presented at this seminar, reference must be made primarily to basic North American data. The preschool movement there flourished in the aftermath of efforts to acquire greater social equality through the provision of educational experiences for young people from the lowest socioeconomic levels, who appear to be disproportionately represented in the statistics on school failure, repetition, dropouts, and special education. Head Start, the first extensive government program for preschool age children was born out of naiveté, political pressure, and the characteristic North American belief that most problems can be overcome in a short time if enough money and effort are directed into them, but there was barely any indirect scientific basis for the optimism that short-term preschool programs could overcome 3 5 years of a background of poverty and "innoculate" children against any

[1]Department of Psychology, Northwestern University, Evanston, Illinois, USA.

further harmful effects of such a background including the primary schools they attend.

Now, a decade and a half later, it is clear that helping disadvantaged children to develop their potential to be productive and constructive members of society requires a deep commitment on the part of society and the major institutions they are in contact with and that both the technology and the theory underlying successful programs are still in the development stage.

There have been relatively few published results, but hundreds of reports on the outcomes of preschool interventions. A small proportion of this material deals with the effects into primary school and beyond. Relatively few of these studies have been random field experiments and even fewer were longitudinal in design following the children who participated and those who did not as far as primary school and further. The results of these research projects repeatedly demonstrate that the effects of preschool intervention on cognitive ability, as measured by standard intelligence tests, diminish over time so that after 10 years of age there is no significant effect of treatment. Our own data show that although differences between groups lessen over time until age 10, they do not disappear and are more apparent for cognitive tasks that require reasoning ability than for those that require the continual acquisition of basic information. Findings about the effects on school achievement during primary school years have been mixed. For example, some programs show improvements in math, others in language; others show achievement differences between girls and boys but no consistent pattern has emerged. Methodological problems also make the interpretation of these various results unclear.

A consortium of US preschool research projects (the Consortium for Longitudinal Studies) has followed their children not only through primary school but, in some instances, through high school. The most promising results were among the combined results of seven of these experimental or quasiexperimental studies showing that children participating in preschool programs are less likely to fall short of school requirements used to determine whether a child must repeat a year, attend special education classes, or drop out. This indicates that despite minor differences in the results obtained on cognitive aptitude tests, after a few years of primary school there is a lasting effect of treatment; one that appears related in part to cognitive skills but also to the learning of behaviour that is appropriate for academic success.

Although these results are encouraging the fact remains that preschool education, even in extremely well-designed and well-managed studies, has not been the sought-after antidote for the educational problems of children from poor backgrounds. For those concerned with the needs of children in developing countries, the US results provide glimmers of hope, although serious difficulties remain as school systems vary greatly and assistance such as psychological services and special education is almost never available, special education being almost nonexistent.

Through the years efforts have focused on trying to identify the variables that give rise to the problems of children in primary school and the strategies that might be implemented to overcome these problems. Theoretical causes were linked to the patterns of interaction between the child and the family and that led to solutions being directed at the child and his or her family. When these strategies did not yield sufficiently satisfactory results, efforts to modify the schools by developing new curricula and different teaching methods more consistent with the principles of child development were increased.

Special attention was given to the design of educational programs that would provide continuity between preschool and primary school because it was hypothesized that the main cause of the inability to sustain the measured effects of preschool programs through the primary school years was the lack of continuity between the two types of experiences. For some this meant making preschool a downward extension of primary school; for others making primary school an upward extension of preschool. The experimental programs that studied this matter of continuity in the US by designing new primary school curricula and methods based on preschool methods did not demonstrate that the continuity of the experiences results in better academic performance in primary school; in most instances, the children whose preschool experiences were similar to the educational style of their primary years showed no significant long-term effects of their preschool years.

It would seem that the primary school years and the experiences that comprise the world of the child during this period have a powerful and direct effect capable of overcoming many of the measurable outcomes of preschool or at least of transforming them such that the effects are difficult to assess by current means of measurement. Although no one would deny that the foundations set in the early childhood years are highly influential, the best of childhoods cannot guarantee a trouble-free middle childhood and adolescence if conditions combine to undermine the

child at a given time; even less can be promised by preschool intervention programs, no matter how excellent, of only a few hours a day. Certainly the results reported by the Consortium for Longitudinal Studies and notably the work of Dr David Weikart indicate that some effects last and may become apparent in later childhood and early adolescence. However, the data urge a clearer and deeper understanding of the primary school experience to design different phases of the educational experience that would reinforce, rather than neutralize or even counteract, each other.

Longitudinal data make it possible to assess the effects of treatment with a degree of certainty that cross-sectional data cannot provide and enable us to see the rates of human growth that are often obscured in other experimental designs. In preschool programs for disadvantaged children, the short-term results often are positive and demonstrate that children respond to educational environments that stimulate them. Indeed, most data show that when those children who have not participated in preschool programs enter kindergarten or first grade they respond to the educational setting with slightly better than expected progress in cognitive growth. In studies where interventions have been conducted with the same children for two or more consecutive treatment periods, the data indicate that the children's responses are greater during the first period and then remain relatively constant or are consolidated. Some have argued that this finding is a product of testing, but the Cali data as well as other experimental research data from studies whose testing has been consistent for all groups indicate that treatment has an effect over and above any familiarity with testing procedures. The data also indicate that it is very difficult to sustain increases in cognitive development after the initial spurt, even in highly stimulating environments.

The follow-up study of the Cali preschool nutrition, education, and health intervention program was designed to assess the stability of treatment effects over time and their relation, if any, to the duration of treatment before primary school. In addition, the evaluation design used the same strategy as the initial 4-year study and included measures of cognitive ability compatible with those applied during the preschool intervention, medical and nutritional assessments, parental observations of school performance, children's perceptions of the primary school experience, and school success as indicated by grade level placement and grades. Only a small portion of this will be discussed here, albeit the most complicated: school performance.

Figure 1, taken from a *Science* article describing the Cali study, shows the effects of the preschool intervention program on IQ as measured by the Stanford-Binet intelligence test, at the end of the first primary school year (age 8). What we will be depicting here is the pattern of school success and failure as it relates to the different groups of children in the study. That the preschool education, health, and nutrition program had a positive effect upon cognitive abilities, and that the longer program improved cognitive ability, was an unequivocal finding. The effect upon school performance, however, was somewhat less clear.

Although the children of the Cali study are now nearing 14 years of age, the data we are presenting here are only until 10 years of age when normal school progress would place them at the beginning of fourth grade, if primary school were to begin at the minimum legal age of 7 and continue for 3 years without a grade failure. The data show averages representing the grade level reached at the beginning of each school year. If normal progress were made, the first grade should have begun in 1974, the second in 1975, the third in 1976, and the fourth in 1977. This was not the case for many of the children as there were instances of late starting, dropouts, and grade failure for a number of reasons.

Table 1, also from the *Science* article, outlines the preschool intervention phase of the study. Tables 2 through 5 show the deviations from the no-failure trend, how intervention was related to these deviations, and at least two major factors that may diminish the effects of intervention.

Table 2 illustrates a major problem encountered in our follow-up research that is faced by others as well in urban programs. The high number of schools poses the difficulty of not being able to assess differential responses against constant backgrounds. What seems clear from these data, and extremely difficult to deal with through observation, is the fact that many of the schools are privately run, allowing families to find establishments nearby suitable for children who have not been able to find a place in the official system, who have failed or been expelled from public school, or who simply wish to be nearer to home. The problem this presents for any program designed for the use of teachers' grades or ratings as criteria for school performance, is that in some cases the children least likely to succeed in public school will be precisely those attending schools where higher ratings are normally given.

Related to this high number of schools is the expected high mobility of children in search of a

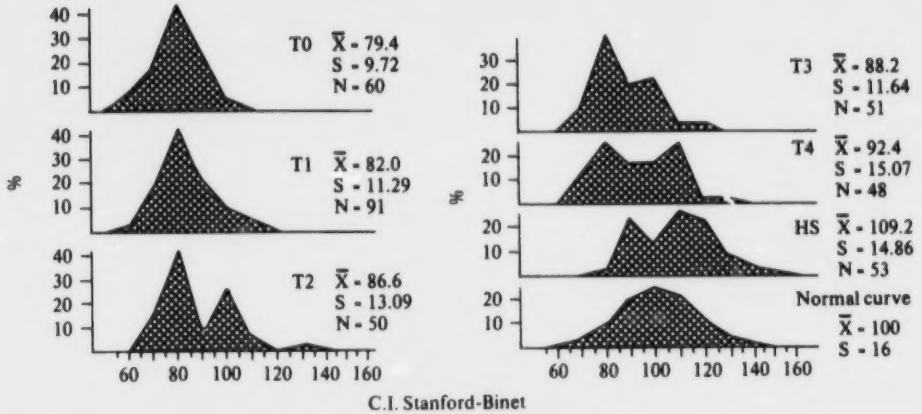

Fig. 1. Mean scores on the Stanford-Binet intelligence test at 8 years of age. Groups TO-14 had had 1 year of primary school. Group HS children had attended preschool and primary schools for up to 5 consecutive years before this testing point. Mental age minus chronological age is as follows: group TO, 18 months; group T1, 15 months; group T2, 11 months; group T3, 9 months, group T4, 6 months; and group HS, 10 months (McKay, H., Sinisterra, L., McKay, A., Gomez, H., and Lloreda, P. 1978. Improving cognitive ability in chronically deprived children. Science, 200:270-278).

better situation, with the result shown in Table 3 that grade failure is related to mobility. The causation is in both directions. There are cases of children who change schools after successful completion of a school year only to fail in the new school, although in most cases failure or other unpleasant experiences expected to result in failure have prompted the move. In either case, analyses of results using placement as a primary factor are faced with a serious problem of variation that may not only be random error but may well produce systematic effects opposite to those pro-

Table 1. Basic selection and treatment variables of the groups of children in the study.

Group	Number 1971	Number 1975	Characteristics
T1(a)	57	49	Low SES. Subnormal weight and height. One treatment period between November 1973 and August 1974 (75 - 84 months of age).
T1(b)	56	47	Low SES. Subnormal weight and height. One treatment period between November 1973 and August 1974 (75 - 84 months of age, with prior nutritional supplementation and health care).
T2	64	51	Low SES. Subnormal weight and height. Two treatment periods between November 1972 and August 1974 (63 - 84 months of age).
T3	62	50	Low SES. Subnormal weight and height. Three treatment periods between December 1971 and August 1974 (52 - 84 months of age).
T4	62	51	Low SES. Subnormal weight and height. Four treatment periods, between February 1971 and August 1974 (42 - 84 months of age).
HS	38	30	High SES. Untreated, but measured at the same points as groups T1-T4.
TO	116	72	Low SES. Normal weight and height. Untreated.

Note: SES is family socioeconomic status.
Source: See reference Fig. 1 (McKay et al. 1978).

Table 2. Number of different schools attended by study children by academic year.

	1974–75 (Grade 1)	1975–76 (Grade 2)	1976–77 (Grade 3)	Total schools
Schools	48	58	63	93
Number of children in school	274	274	263	

Table 3. School changes in the first 3 school years (1974–77) and grade achievement at the beginning of the fourth year of schooling, with all study groups combined.

Number of schools attended	Grade level (fall 1977)
One school all 3 years	3.4
Two schools in 3 years	2.7
Three schools in 3 years	2.5

Table 4. School failure each academic year from 1974–77 by study group.

	Proportion of children failing the year		
Group	1974–75	1975–76	1976–77
T4	0.18	0.24	0.27
T3	0.39	0.26	0.23
T2	0.32	0.27	0.30
T1	0.26	0.37	0.24
T0	0.32	0.41	0.35

Table 5. Average grade level at the beginning of each school year for study group children with continuous attendance, 1974–77.

Group	1974–75	1975–76	1976–77	1977–78	No.
T4	1.0	1.8	2.5	3.2	45
T3	1.0	1.8	2.4	3.2	41
T2	1.0	1.7	2.5	3.1	37
T1	1.0	1.7	2.3	3.0	76
T0	1.0	1.7	2.3	2.9	37

Table 6. Relation of attained grade level by 1977 (age 10) to Stanford-Binet intelligence quotients at age 8.

IQ ranking at age 8	Proportion of children in each grade level at age 10			
	Grade 1	Grade 2	Grade 3	Grade 4
Top 25%	0.02	0.05	0.37	0.56
Mid 50%	0.09	0.24	0.38	0.24
Bottom 25%	0.21	0.32	0.40	0.07

duced in a stable school situation.

In spite of these difficulties, and others to be mentioned later in this paper, patterns in the relationship between school progress and the various interventions of the study groups emerge, although very faintly.

School failures are inversely related to the amount of intervention, especially in the 1975–76 (second) year, as shown in Table 4. In Table 5, the differences in the grade levels of the intervention groups appear to be very small, but they are consistent with the expectation that more intervention, begun earlier, has a positive effect upon subsequent grade achievement, at least until the third grade.

Finally, for the data in Fig. 1 (IQ results at age 8) to be meaningful in terms of school aptitude rather than simply as an abstract concept of intelligence, some relationship must be determined between these data and our criteria for school progress. Table 6 does this, showing quite clearly that higher test scores are related to subsequent grade level achievement. Of course there are striking enough contradictions in the data (children with very low IQ scores achieving high grade levels and vice versa), for us to hypothesize that this is a result of changes in schools mentioned earlier as well as other common causes of variation, such as inaccurate measurement.

What is possible with all three sets of basic data (IQ versus grades; grades versus intervention; intervention versus IQ) is to confirm the existence of a preschool effect upon school performance. What we want to stress here, furthermore, is the importance of acknowledging that there are many uncontrollable social factors at work in follow-up studies that can seriously hamper the ability to detect the effects of intervention. To further emphasize this point by way of illustration, we cite two examples from the Cali experiment.

As we finalized the design for the follow-up phase of the longitudinal study the amount of evidence that indicated that the effects of treatment on cognitive ability disappeared once the children who had participated in the preschool programs entered the regular educational system made us eager to explore the theory regarding educational continuity mentioned earlier. The now-defunct Instituto Colombiano para la Educación (ICOLPE) was interested at the time in developing a new curriculum and considered the children of the Cali study to be an ideal group to work with because so much information had been collected about their psychological growth from the age of 3. We saw this as an opportunity to test the continuity hypothesis and, therefore,

entered into an agreement with them. Unfortunately, ICOLPE was never able to undertake the planned experiment in curriculum development. However, a school was established with four teaching positions providing places for more than 100 children, mostly from the preschool study. The program offered was in keeping with earlier experiments in that health care and food supplements were provided; however, the educational experience was not an extension of the preschool methodology but rather a repetition of patterns found in the regular schools in the area. Traditional teaching models, rote learning, and remote relationships with parents and children were some of the characteristic elements of the teachers' styles and broke the continuity of the earlier experiences of the preschool program as did the educational experiences in the other schools attended by children involved in the study. However, this school that we called the "pilot school" was relatively understanding of the children, and the teachers in time came to understand the goals of our program and to develop an interest in the needs of the children. The continuing relationship we had with these teachers helped us gain an understanding of the problems facing educators dealing with children whose previous educational experiences developed abilities and child-adult interaction styles that differed from those that are familiar and comfortable to the primary school teachers and call for behaviour on their part for which they have received no preparation or training.

Another problem that shaped the design of the follow-up study and the complexity of the analyses was the shortage of places in area schools for all children old enough to enter first grade. This shortage often resulted in a 1- or 2-year delay before entering first grade while the family attempted to find a space for the child. Our special efforts and support from several sources resulted in classrooms being opened and additional places for all the study participants, but it called more attention to them than we had wanted. The nature of the research plan was not disclosed so that the teachers did not know how much preschool experience their students had had, but the children were classified as having come from a well-known and supposedly intensive program before first grade. It soon became clear, especially from parents' comments to us, that the teachers' reactions did not always support the early preschool experience and that, in general, the teaching style differed from what the children had been exposed to previously, especially with respect to disciplinary measures and lack of encouragement.

We were often able to detect a marked disparity between the teachers' stated preferences regarding their students' behaviour and their responses to examples of this behaviour in the classroom. Many teachers voiced a desire to have active, curious, and verbally expressive children in their class; in reality they found it difficult to deal with such behaviour patterns and after a while tended to describe the children as undisciplined, inattentive, talkative, aggressive, and impolite. In the pilot school, we could actually observe outbursts of aggressivity among first-grade children who hadn't been like that, at least in the program context, during the preschool years. The goal became that of achieving a similiarity of behaviour between the preschool children and their nonpreschool classmates. Our data would suggest, as have US data, that the teachers could be quite successful at this or, if the children did not modify their behaviour to meet the teacher's standards, they were failed even when they were performing at grade level. Our experiences bring to mind the comments of US kindergarten teachers that it took many months before the Head Start children were finally "settled in" and of fourth-grade teachers who believed that they had to train the children from the follow-up program to sit still and pay attention before they could begin learning.

There would appear to be some teacher reactions to accepting children from special programs that must be better understood if we are to know how to interpret the results of long-term studies. An understanding of the interaction between children from preschool programs and their primary school teachers is essential if we are to develop an effective relationship between the two systems. Although it is not always easy to win the confidence of primary school teachers to observe this interaction, it is of the utmost importance that those working in preschool programs be able to do so if we are to understand the reality of the primary schools and how much they are in need of or capable of change in any given period of time.

Finally, we should consider the objectives of preschools in terms of both assessing the primary school system and how much we can actually expect preschool interventions to contribute to the development of cognitive, social, and personal skills that justify the investment of limited government and private resources.

We are encouraged by the increased emphasis on community-oriented preschool programs and greater parental participation. Our experiences with such programs lead us to endorse them but they also need to be assessed for their long-term effectiveness in helping children meet the important social demands of the school system.

Lasting Effects of Preschool Education on Children from Low-Income Families in the United States

John R. Berrueta-Clement, Lawrence J. Schweinhart, and David P. Weikart[1]

Introduction

The issue of the possible effects of quality preschool education upon the long-term prospects of children has been a subject of constant concern for many years in the United States. Despite major early education initiatives (notably, the well-known Head Start program), it is only recently that unequivocal, solid evidence of long-term effects has become available. This evidence indicates that early education programs of high quality can have a significant positive long-term impact on children from low-income families (Schweinhart and Weikart 1980). Perhaps most exciting is that it appears the impact may have a significant effect on the entire life course of participating individuals. To the extent that preliminary economic analyses have succeeded in assigning monetary costs and returns, the evidence available indicates that early education may appreciably reduce the costs that society later must bear for each child and indeed that the costs of preschool can be more than recovered over the lifetimes of the participants.

There are still many issues to be resolved: questions need to be answered, for instance, about the nature of the population that can benefit most, about the intensity of the intervention efforts required, and about the administrative approaches needed to extend programs from small-scale interventions to networks of local programs with goals shared throughout a nation (or to massive centralized national efforts) with minimal loss of quality and maximal coverage. But the principal finding is that preschool can have important positive long-term effects.

This paper outlines the evidence supporting this finding in the United States. It draws primarily on the long-term longitudinal studies of the High Scope Foundation. The paper also discusses the application of these findings to policies regarding preschool education in countries other than the United States – especially the developing nations.

History of the Research

Early childhood education has a long tradition and deep historical roots; but its modern history in the United States goes back just 20 years. J. MacVicker Hunt's "*Intelligence and Experience*" published in 1961 condensed the various viewpoints regarding developmental processes in young children and their modifiability by the environment, giving impetus to a wide variety of research efforts and services. Within the next 5 years a number of innovators established programs for 3- and 4-year-olds; at the same time, key social changes regarding segregated education led federal government policymakers to adopt a radical new approach. The Great Society, equality of educational opportunity; preschool education as a concept appeared to fit the new approach naturally. The children of the lower class were "disadvantaged," and, therefore, their performance in the school system was impaired. If they could just be given a "head start" they would enter school on an equal intellectual and academic footing with their middle-class, "advantaged," peers.

In 1965, President Johnson created the Office of Economic Opportunity; one of its key projects was the national Head Start summer program.

[1]High Scope Educational Research Foundation, Ypsilanti, Michigan, USA. The research reported here was supported in part by the US Office of Education (1964–67), the Spencer Foundation (1971–74), the Carnegie Corporation of New York (1975–80), the US Administration for Children, Youth and Families (1976–80), and the Office of Special Education (1980–83).

The initial 8-week effort was soon extended to a full year. The fate of those early high expectations is by now well known: evaluators failed to find any intellectual or academic short-term impact of Head Start participation. Although the findings generated intense debate in the academic community, policymakers felt that preschool for the "disadvantaged" was not educationally worthwhile.

Head Start proved to have amazing political vitality. The program was repeatedly saved by Congress, a feat accomplished largely by the parents of Head Start children. The program's rationale was broadened to include social and health services. Over the next decade, Head Start increased its funding at a steady pace and survived two transfers to different bureaucratic agencies. The enthusiasm for the concept and the quality of the service gave Head Start its strength. Written off by the experts, the politicians, and the news media, the program found other supporters, including the parents, who could see in their own families the benefits and importance of preschool.

While Head Start languished and survived, a quiet revolution was unfolding. The social changes that gave rise to the Great Society continued; at the same time, information on the importance and impact of preschool had been accumulating from that group of early studies and programs. The first compilations received little acclaim from professionals or the lay public; only recently have middle- and long-term findings become available. One of the earliest of these preschool studies is the Ypsilanti Perry Preschool project.

The project was initiated by Weikart and his associates in 1962 to determine how preschool education could benefit disadvantaged children. To this end, two groups of children, randomly selected, were formed between 1962 and 1967 — one group of 58 children who attended the Perry Preschool, and one group of 65 children who had no preschool — a total of 123 children in the longitudinal sample.

The Perry Preschool study was an attempt to intervene in part of the cycle of poverty — the ongoing progression of undesirable social and educational conditions, such as school failure, early withdrawal from school, and juvenile delinquency. Some early indicators of these results could be and were assessed shortly after the preschool experience. Other results, of greater consequence, could only be assessed after the passage of time, as project participants passed through adolescence into adulthood. Thus, the evaluation became a longitudinal study, with data collected at regular intervals throughout the 19 years since it began. A comprehensive assessment of project participants at age 19 is currently in progress.

Sampling and Group Assignment

The study took place in Ypsilanti, Michigan, a city of about 30 000 located 48 km west of Detroit, USA. The children came from families in the attendance area of the Perry Elementary School, at the time an exclusively black section of town. This neighbourhood was selected because the school had a history of low academic achievement.

The children entered the study in five successive groups, with each group of about 25 children being equally divided into two groups: children who attended preschool and those who did not. The age of the child on entering the project was a selection criterion. In the first year of the project, a group of 4-year-olds entered the project as well as a group of 3-year-olds. In each of the following years, a new group of 3-year-olds entered the project to replace the graduating group of 4-year-olds. Thus, one group entered the project at age 4 and remained for 1 year, and four groups entered the project at age 3 and remained for 2 years. This procedure permitted the investigators to provide preschool education to 58 children over 5 years, without the class size ever exceeding 25 children.

Two measures were used as criteria for inclusion in the sample: the family's socioeconomic status and the child's score on the Stanford-Binet Intelligence Scale. Each September the names of all families with children of the appropriate age were drawn from the Perry school census. The socioeconomic status of these families was determined by a formula based upon the educational level reached by the parents, the occupation of the head of the household, and the household density in rooms per person. If the family's socioeconomic status (SES) score was below a specified level, the Stanford-Binet Intelligence Scale was applied to the child. Children with low intelligence quotient (IQ) scores on this test, but with no evidence of organic impairment, became part of the study sample. To qualify for the project, a child's IQ had to be 90 or lower. Eleven percent of the sample had IQ test scores lower than 70. The range between 70 and 85 was at the time included in the official definition of mental retardation; today it is not.

Each year, the children were assigned randomly to either the experimental group or the control group on the basis of earlier IQ tests, with adjustments to balance the groups with respect to

sex ratio and average socioeconomic status. The actual procedure was as follows. The children were classified according to their IQ test scores, then sorted into two groups. Children with similar scores were moved about to balance the groups with respect to sex ratio and average SES. After one group was assigned arbitrarily to preschool any younger siblings were assigned to the same group as their older siblings in the project, so as to maintain the complete independence of the two groups. Finally, five children were transferred from the experimental group to the control group as they were unable to attend preschool because they lacked transportation or their mothers worked.

At the time of entry into the study, the two groups were essentially the same in Stanford-Binet IQ scores, socioeconomic status, birth order, family size, the proportion of persons receiving assistance from social welfare organizations, the proportion of boys, father's presence, and father's employment; the only statistically significant difference at entry between the families of the children who were to attend preschool and those who would not occurred in the proportion of families with working mothers. There were relatively more working mothers in the group of children who did not attend preschool, a deliberate difference owing to the policy of the study. Eleven years later, the proportion of working mothers was the same for both groups. In fact, this second assessment of family features showed the two groups continued to be essentially identical in all major characteristics.

The Preschool Program

The program of preschool education had two major components: daily attendance by the children in a preschool classroom and weekly home visits by a teacher. The children remained in the program for 2 years (1 year for the first group) from October to May. The classroom program ran for 2½ hours a day, 5 days a week, with a teacher child ratio of 1:6. The weekly home visits to the mother and child lasted about 1½ hours.

The preschool program emphasized individualized support of the child's cognitive development. At the same time, the Perry project was also a curriculum development project; the curriculum evolved over the years, as the staff sifted its experience for better strategies and as the focus upon cognitive-development theory became firmer and more articulate. The curriculum at the end of the preschool operation is described in the book "*The Cognitively Oriented Curriculum*" by Weikart et al. (1971).[2] In the research plan presented here, curriculum development is regarded simply as an undetermined variation in the preschool curriculum.

Assignments

Three standardized tests are focused upon in this paper: the Stanford-Binet Intelligence Scale (1960 form L-M and 1960 norms), the Wechsler Intelligence Scale for Children or WISC (1949 edition), and the California Achievement Test or CAT (lower primary and upper primary levels, 1957 edition; level 4, 1970 edition). The Binet was given as a pretest in the fall before each group of children entered the project and at the end of each school year from the end of the first year of preschool through fourth grade. The WISC was given at the end of the eighth grade. (The change from the Binet was made because the WISC was judged to be more suitable for older children and provides subtest scores as well as a total score.) The CAT was given at the end of each school year from first grade through fifth grade and at the end of eighth grade.

Subject loss was moderate for all of these tests. An average of 82% of the sample were given the annual achievement tests. On the important eighth grade testing, 95 of the 123 children in the sample (77%) took the CAT. Tested subjects were compared to untested subjects on a variety of characteristics, including preschool group membership and those family features considered upon entering the program. No differences between tested and untested subjects were statistically significant.

Other aptitude tests were also administered, first a pretest within 3 months of preschool entry and, subsequently, tests given annually from the end of the first year of preschool to the end of third grade. These tests were: the Peabody Picture Vocabulary Test; the Arthur Adaptation of the Leiter International Performance Scale, a nonverbal IQ test; and the Illinois Test of Psycholinguistic Abilities or ITPA (experimental edition; McCarthy and Kirk 1961).

The children's social behaviour and academic potential were assessed in school by two rating scales completed annually by the elementary teachers from the end of kindergarten through to the end of third grade: the Pupil Behaviour Inventory and the Ypsilanti Rating Scale. The two rating scales are summarized by nine factors

[2] The curriculum has continued to evolve; see "Young Children in Action — A Manual for Preschool Educators" by Hohmann, Banet, and Weikart 1979.

having to do with academic orientation and classroom behaviour. Sample retention on these rating scales averages 82%.

Another rating scale, applied within 3 months of project entry, was the Maternal Attitude Inventory or MAI, which measures the mothers' attitudes toward childrearing in general. The Cognitive Home Environment Scale (CHES) was applied to the parents of the children in all groups in the spring of 1966; the CHES measures the parent's educational practices and the nature of the home as an environment for learning.

At age 15 the subjects and their parents participated in comprehensive structured interviews. The data were collected by qualified personnel distributed as evenly as possible to minimize the effects of any possible biases. At testings after preschool, testers were not informed whether the children they tested had attended preschool or not.

Statistical Analysis

The principal statistical analysis of the results presented here is multiple linear regression. This technique was used to equalize the effects of 10 covariables on the outcome variables and then analyze the effects of preschool group membership as the last variable entered. The values indicated in Fig. 1 and 2 and in Table 1 have been adjusted to reflect the effects of these covariables. Multiple regression analysis in effect removes the cumulative impact of variables used as covariables on the outcome variables — greatly increasing the power and sensitivity of the analysis. In other words, the analysis virtually eliminates the possibility of group differences being attributable to anything other than preschool.[3]

Four variables for which data were actually collected before or at project entry were used as covariables: the IQ score on the Stanford-Binet, the computed value of the socioeconomic status of the family, whether the mother was employed or not, and the mother's level of education. The remaining six covariables were derived from data collection efforts begun soon after project entry.

[3]Multiple regression analysis under certain conditions can create or enlarge differences not present in the raw data before statistical adjustment. In fact, the opposite was the case for the more pronounced group differences reported here. The magnitudes of preschool IQ and eighth grade achievement differences were reduced by the statistical adjustment.

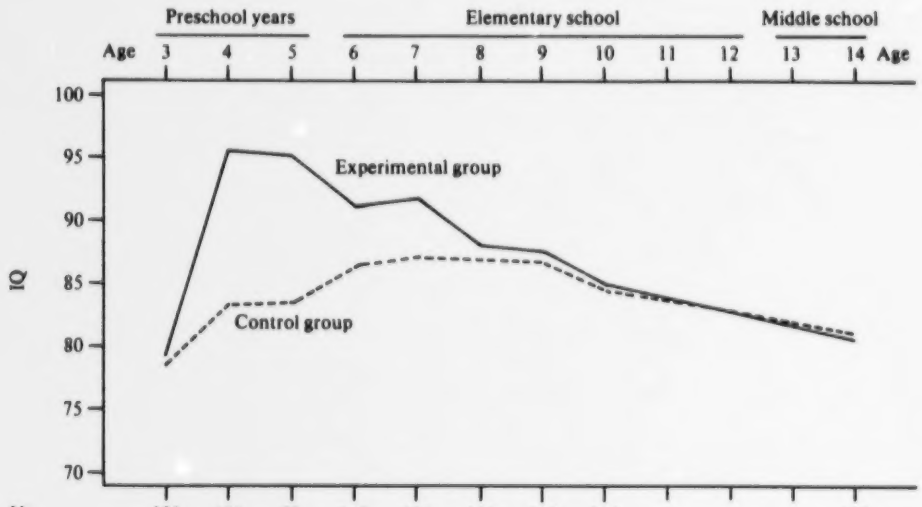

Fig. 1. Cognitive ability by group over time. (Stanford-Binet tests, given at age 3 through 10, have IQs with a national population mean of 100 and a standard deviation of 16; WISC tests, given at age 14, have IQs with a national population mean of 100 and a standard deviation of 15.)

These include the IQ score from the Arthur adaptation of the Leiter test and the scores for the Illinois Test of Psycholinguistic Abilities and the Peabody Picture Vocabulary Test, as well as the scales for assessing the mothers' attitudes and two home-environment characteristics: the home as an environment for learning and the parent as teacher. Effects associated with the preschool intervention were statistically removed from these latter variables, and the residual scores were used as covariables for the analyses reported below. The residual scores provide the best available indicators of what variable levels would have been in the absence of early intervention.

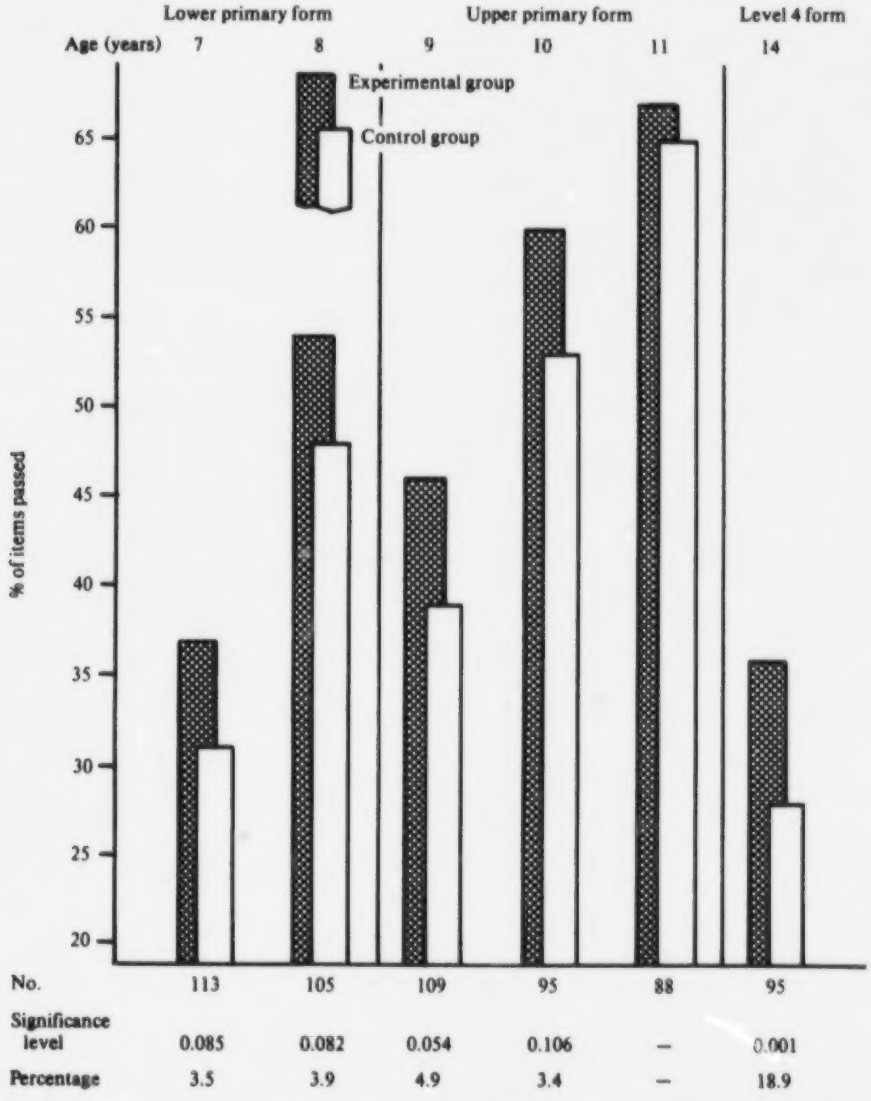

Fig. 2. Total school achievement by group over time. The α_t, an index of the consistency of measurement over time, was 0.953. The α for the age 14 test (only for which α was assessed) was 0.966.

Table 1. Magnitude of effects of preschool education on IQ test scores and academic achievement.

Time (Spring of each year)	IQ test score		School achievement	
	Variance accounted for (%)[a]	Level of significance[b]	Variance accounted for(%)[a]	Level of significance[b]
Preschool				
Year 1	19	< 0.001	No measurement	
Year 2	10	< 0.001	No measurement	
Kindergarten	4	0.009	No measurement	
Grade				
1	4	0.016	1	0.083
2	0	n.s.[c]	3	0.038
3	0	n.s.	3	0.029
4	0	n.s.	5	0.015
5	No measurement		4	0.022
8	0	n.s.	9	0.004

[a]Increase in the squared multiple correlation owing to preschool, over and above the effects of 10 covariables described in the text. All effects favour the children who attended preschool.

[b]Probability, given a directional hypothesis, that the reported proportion of variance accounted for occurs by chance.

[c]Not significant (n.s.): probability greater than 0.10.

Analytic Findings

Cognitive Ability and Academic Achievement Over Time

Figure 1 presents the pattern of differences in Stanford-Binet IQ scores over time between children in a successful preschool and children without preschool, made familiar by numerous studies. Before preschool the groups were virtually identical in IQ. The children who attended preschool experienced a gain of 15 points while they were in preschool, almost all during the first year. Meanwhile, the children who did not attend preschool had a rise in Stanford-Binet scores of four points, which probably represents the extent of statistical regression to the population mean for these groups. Hence, there was a difference of 12 points between groups at the end of as many as 2 years of preschool. One year after preschool, the difference had declined to some five points, at which level it remained through first grade. By the end of third grade, there was no longer a difference between groups, and no difference of consequence appeared thereafter.

The CAT results presented in Fig. 2 are in striking contrast to the results for cognitive ability presented in Fig. 1. The group difference favouring preschool, instead of disappearing during the primary school years, remained constant and even grew slightly. By the eighth grade the group difference corresponded to more than a year in terms of grade norms.

At the eighth grade for the first time, the children with preschool had significantly higher scores ($p < 0.05$) in the three main divisions of the CAT: reading, language, and arithmetic.

The magnitude of group differences in cognitive ability and academic achievement over time is presented in Table 1. The test results suggest a three-part pattern of changes in preschool IQ and academic achievement. Preschool experience had an immediate effect on IQ during preschool, little or no effect on IQ after the first 2 years of school, and a cumulative effect on academic achievement. By eighth grade almost one-half of the children with preschool experience scored higher than did the children without preschool. In fact, 49% of the children who had attended preschool achieved a fifth-grade level or above, whereas only 17% of the children who had not attended preschool did that well.

Classroom Behaviour and Grade Placement

The classroom behaviour of the children who attended preschool was consistently rated more highly by kindergarten and first, second, and third grade teachers than was the behaviour of the children without preschool. Differences were slight, but they persisted over the 4 years of assessment. To strengthen the stability and validity of the teacher ratings, each of the nine factors was averaged across at least three points of data collection. The factor "independence from teacher" on the Pupil Behaviour Inventory did

not significantly differ between the groups. The group that attended preschool, however, was rated significantly better in the remaining eight factors (N = 105 for Ypsilanti Rating Scale (YRS), N = 95 for Pupil Behaviour Inventory (PBI)):

Factor	Significance level
Academic motivation (PBI)	0.04
Academic potential (YRS)	0.06
Verbal skill (YRS)	0.06
Social development	0.03
Emotional adjustment (YRS)	0.06
Classroom conduct (PBI)	0.03
Socioemotional status (PBI)	0.08
Personal behaviour (PBI)	0.04

It was also found that the totals of the rating scores on the academic motivation and academic potential scales were excellent predictors of eighth grade achievement with correlations of 0.697 and 0.711, respectively. These correlations are greater than those between concurrent IQ and eighth grade achievement (0.702) for this sample.

The children who attended preschool were found to be more successful as a group in school, as measured by the schools' own main criteria of success.

Economic Costs and Benefits to Date

A cost-benefit analysis of the Perry Preschool Project was carried out with data collected in 1973. The findings for 2 years of preschool, based on a sample size of 95, are presented here. The amounts were originally calculated based on 1958 constant dollars; these values are translated here into 1979 dollars by multiplying by 2.4, the rate of inflation in the intervening period. The cost of two years of preschool for one child in 1979 US dollars was US $5722 (US $2861 per year).

Three types of benefits were included in the analyses: (a) savings from lower education costs; US $3206 per child was saved because fewer of the children who attended preschool required special education or institutional care; (b) benefits from an increase in projected earnings — US $10 325 per child; lifetime earnings were projected for each child on the basis of projected educational level, age, race, and sex. These descriptions were converted to projected lifetime earnings determined from survey data, particularly the 1970 census; and (c) the value of the mother's time freed when the child attended preschool — US $638 per child; based on an average wage rate for the homemaker in 1979 dollars of US $3.38.

The total benefits calculated by these methods were US $14 170 per child, against the cost of US $5722 per child. The benefits amount to a 248% return on the original investment.

Work is currently in progress at the Foundation to update and extend the economic analyses through the end of secondary school.

Other Findings

Youth and Parent Interviews

This section summarizes the major findings of interviews with a total of 99 15-year-old children from both groups and their parents.

Value placed on schooling: The youths who attended preschool placed a greater value on schooling at age 15 than those who did not attend preschool. The construct "value placed on schooling" was measured on a seven-point scale that contrasted the value of schooling with experiences outside of school in terms of learning and personal worth. Although the overall scale showed a statistically significant difference, the item that most clearly distinguished the groups was the statement "all persons should have at least a high school (secondary) education," with which 86% of the youths with preschool and 73% of those without agreed.

Other aspects of school commitment: The youths who had attended preschool were more likely to have thought of going to college (77%) than those who had not gone to preschool (60%). The preschool attendees were more likely to say that schoolwork required preparation at home and that they spent time each week doing homework. Finally, the parents of the preschool youths felt their children were more willing to talk about what they were doing at school.

Parent satisfaction and aspirations: About 6 out of 10 parents of the children who had attended preschool expressed satisfaction with their offspring's school performance (59%), whereas slightly over one-fourth of the parents of the children who had not attended preschool expressed such satisfaction (28%). The parents of the preschool attendees also expressed higher educational aspirations for their children.

Adolescent misconduct and delinquent behaviour: Preschool education led to a reduction in the rates of self-reported misconduct and delinquent behaviour by adolescents. For all 17 cate-

gories of possible deviant or delinquent behaviour of varying degrees of seriousness, 36% of the youths who had attended preschool admitted to having committed five or more offences, as compared to 52% of those who had not attended preschool. Similarly, 43% of the preschool youths claimed they had not committed any offences, as compared to 25% of those with no preschool experience.

The children who had attended preschool were found in a second analysis to have lower levels on a scale of serious delinquency, consisting of weighted self-assessments of delinquent behaviour involving violence or theft. The question that revealed the greatest difference between the groups was: "Have you ever taken something by force from another person?", to which 98% of the youths with preschool experience and 85% of those without preschool experience answered "No."

Discussion

The picture painted by the longitudinal findings of the Ypsilanti Perry Project is clear. The treated children showed evidence of immediate program impact: short-term, positive changes in measures of cognitive ability, followed by differences in measures of classroom behaviour and social adjustment according to the assessment by the teachers in the early primary grades. Consistent with the teachers' perceptions, actual measures of academic achievement showed clear differences lasting into the eighth school year, displaying remarkable permanence and a cumulative, meaningful educational impact. The extent of the impact can be interpreted by reference to the norms for the achievement tests used: by about eighth grade, the youths who attended preschool achieved, on the average, academic performance levels typical of children a grade more advanced, as contrasted with the levels of the children not receiving the treatment. By about the fourth grade, these differences in academic performance had extended to differences in school success: there is a measurable difference in the proportion of children requiring special education services or held back a grade.

In short, there appears to be a coherent pattern of ongoing changes in the children who attended preschool. The data presented here show that, if the untreated group is viewed as what the treated group might have been but for preschool, the program produced major differences. Projections can be made from these findings for the ensuing years. In the United States, adolescents must attend school until they are at least 16 years of age; consequently, none of the adolescents could have dropped out of school at age 15. From the levels of academic performance and school success measured at age 15, it is possible to predict differences in the dropout rates and final educational levels attained for the two groups.

What is more, the indicated differences in self-reported misconduct and delinquency suggest that the effects of preschool extend beyond the sphere of schooling. For reasons not yet well understood, the youths who attended preschool appeared to get into trouble less often than those who did not. It is not difficult to see how such a difference could be meaningful in late adolescence and early adulthood in areas such as employment — getting and keeping a job, being promoted — the final educational level attained, family formation, or even coping with the normal stresses of life.

The consistency of these findings with respect to both time and outcome indicates that the intervention led to profound changes in the youths. Having once been essentially the same in nearly every way measured, the two groups of the experiment are now clearly different and appear to be on different tracks — headed in different directions. Such results will doubtless have a lasting, lifelong impact.

There are, however, three significant points to be made. First, in a number of areas there were no changes over time or no apparent differences. An example is the IQ test scores. The areas of unlasting change are important indicators of treatment effect, as are those that showed no change. Second, the intervention's effects are meaningful but limited; the level of risk of educational failure declines, but by no means disappears. Finally, the extent of the effects is an important sign probably leading toward an understanding of the limits of what can be achieved by early education programs with populations at risk.

The answer to the original question raises a host of new queries. Perhaps the most fundamental is *how*? What was it about the preschool program and its early impact that led to long-term differences? The questions unfolding from this major one lead to a whole structure of inquiry to which current Foundation research efforts are directed. Our view is that there are three major areas that intervene between quality early childhood education (as exemplified by the Perry Preschool) and later success. Two of these areas have to do with changes in the children themselves: in cognitive functioning and in the development of the social skills needed to adapt to formal schooling. A third area worthy of consideration emphasizes the changes produced in the family

rather than in the children.

Identification of the variables that intervene between the short- and long-term impacts is important to understanding the applicability of these findings in broader contexts. If a logical order can be assigned to these paths, we will have increased our understanding of the benefits of early childhood education with significant policy implications. Even if the changes in these major areas cannot be distinguished from each other or from the most important features of the family structure, the combinations of features that allow the effects to spread can be regarded in the light of the social and personal contexts in which early education is considered as a possible form of intervention.

To extend these findings to other nations, and in particular to those in the developing world, two questions need to be answered: how are the levels and types of risk comparable and to what extent are the contexts found in the developing world comparable in providing the intervening connections that might translate short-term impact into long-term success?

Toward Obtaining Long-Term Effects in Developing Nations

Two important conditions limit the possibility of extending the effects of a quality preschool program in the United States to similar programs in other countries. First, the participants were judged to be at real risk of educational failure in *local terms* and, second, the program took place in a context of universal (indeed compulsory) public primary and secondary education.

We stress the first condition because it seems important to understand what we mean by risk: the risk might be very different in other countries. The children of the Perry project were destined (as a group) for low levels of academic achievement, a need for special supportive services, and an early termination of their education. Although completing 9 or 10 years of primary and secondary education might be viewed as a highly favourable result in other countries, this is not the case in the United States. The nature of both the short-term effects and the possible forms of intervention that emerge indicate that the local educational risk may be at least partially altered through early childhood education intervention. If the children who risk educational failure can be made to appear more "schoolable" to their teachers, and if lasting effects on school achievement can thus be obtained, then there is reason to expect that other such programs will have similar effects. Because low-income groups at equally high risk of educational failure can be identified in every developing nation, there is reason to expect that early childhood education would help diminish educational failure when these groups are targeted for intervention. The risk must be measured in local terms, as must the desired impact; what cannot be disputed is that the level of risk for low-income groups in all countries is high. Thus, we feel that early childhood education merits consideration as a policy alternative wherever a high risk of educational failure can be identified.

But what of the local context in the United States? Public education is free and, therefore, available to all, and indeed by law in most states children must attend school until the age of 16. This is not the situation in most developing nations: public education resources are insufficient in many countries; most educational facilities are, therefore, private; and many are overcrowded — especially those serving children of low-income families. In Latin America, for instance, the risk of educational failure is expressed in terms of a much lower opportunity level than in the United States or Europe. In our own observations in low-income urban areas in Colombia, it is not at all uncommon to find primary schools with five first-grade and five second-grade classes, two third-grade classes, and one fourth- and one fifth-grade class. No statistical analyses are required to estimate the grade levels attained by pupils in such a school system.

How can the educational contexts of developed and developing nations be compared? Specifically, what can be said about the potential long-term impact of preschool if school is not universal and compulsory? To answer this question, this long-term impact must be studied *in situ*. In this paper, however, we must examine the mechanisms linking early intervention to long-term results.

There are two ways in which the short-term effects of preschool can extend to long-term success where schooling is not universal. The first is by taking better advantage of the educational opportunities available. From the Perry findings, we can see that children can be helped to respond in ways that make them appear more "schoolable" — that is, they can be given an early advantage. The Perry findings suggest that this early advantage will lead to the acquisition of more skills than are taught in the early years of formal schooling: literacy, numeracy, and other cognitive and social abilities. As Halpern (1980:486) suggests, more years of schooling or better use of

the years of formal schooling should translate into more skills, and these in turn are related to lifetime incomes and are necessary for political participation. Furthermore, if these changes in the children are visible to the parents, and if the parents feel that such changes are desirable, then the parents themselves might be expected to allocate their resources differently to extend their children's schooling. They might do this by attempting to obtain private schooling; there are often nongovernmental schools in even the poorest *barrios* of Latin American urban areas, for example, and their costs are not out of reach if the parents are willing to make sacrifices. Alternatively, the parents might move to find schools, or simply become interested and seek a teacher for their children. All of these efforts are within the means of many poor families and might result in an extension of formal schooling.

The second way in which the short-term effects of preschool might extend to long-term effects is through the environment outside the school. Even accepting the idea that the cognitive effects of preschool are transitory, the social effects appear to be more lasting. On the assumption that cooperation in problem solving, verbal skills, emotional adjustment, and conduct could be permanently improved, these changes in the children should positively affect their success in any social or work activity. Changes such as these would then amount to significant improvements in the quality of human capital.

Other possible effects of preschool have been noted that might alleviate the causes of early dropout from school. Although these potential effects are beyond the scope of this article, they are summarized here briefly because some of them are not unrelated to the effects noted in the Perry project. Preschool may alter children's ability to cope with crowded schools and the consequent inadequate teacher attention to the individual needs of the children, it may provide the children with the necessary language or reasoning skills, and it may change parental expectations and prevent them from employing their children in the family business or encourage parents to make a special effort to send their children to school. Medical and nutritional care and secondary interventions related to early childhood education programs could prevent poor health and nutritional status at later ages. Finally, the availability of community support for families with preschool-age children should benefit both the children and their families.

The application of the findings of the Perry project to policies for early childhood education in developing nations rests on two bases. The first is that the risk of educational failure can be defined in local terms for low-income populations; the second, that the short-term impact of early childhood education can be extended to the long term even in the absence of universal formal primary education. If these two bases can be accepted, the findings of the Perry project and other preschool efforts in the United States can be taken, along with the pioneering efforts of Third World researchers and program developers, as evidence of the merits of early childhood education as a source of policy alternatives for increasing the value of each nation's human capital. In considering early education in this way, at least three opportunities merit recommendation:

(a) Early childhood education programs merit consideration in their own right in addition to formal schooling, as preventive interventions for children from specific populations at high risk of educational failure in local terms.

(b) Early education programs merit consideration in combination with primary screening and secondary intervention projects in the areas of nutrition and health and in combination with community child care projects and family support networks. Although significant effects with preventive implications can be obtained, perhaps most important are the synergistic effects at the personal, family, and community levels of combining these interventions with the same target populations.

(c) Early education approaches merit consideration when contemplating curriculum design and educational reform efforts in primary education. Primary education could benefit from adapting methods used in local preschools and from those used in other contexts. Changes in structuring the classroom setting, in the organization of the class day, and in the content of activities, without losing sight of primary objectives, could result in extending the impact of preschool to the primary classroom.

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Early Childhood Education in Brazil: Trends and Issues

María Carmen Capelo Feijó[1]

The Brazilian Educational System: Its Structure and Organization

To analyze the trends and issues related to early childhood education in Brazil, some background information on the Brazilian educational system seems essential. The formulation of Brazil's educational legislation corresponds to the three administrative government levels: federal, state, and municipal. The Brazilian Constitution gives the federal government the responsibility of defining the educational policy of the country — the rules and general direction of Brazilian education. Thus, a unified policy determines the educational goals of the whole nation and each state must organize its own educational system.

The structure of the Brazilian formal education system comprises: (a) primary education (basic education is the Brazilian term), consisting of 8 years (grades 1 – 8); (b) secondary education, consisting of 3 or 4 years, which aims at preparing students for entry into middle level occupations and or higher education; (c) higher education, of varying duration; and (d) postgraduate education, offering the equivalent of Masters and Doctorate degree studies.

It should be noted that this structure does not include preschool education. This does not mean that attempts to provide preschool education for Brazilian children have not been made. It has only not been considered as a priority area because the Brazilian educational system is still struggling to provide basic education for its school-age children.

Primary Education and its Effectiveness

The 1971 Education Reform Act included as one of its principal objectives the provision of free and compulsory education for all children between the ages of 7 and 14. According to information reported by the Ministry of Education, between 1971 and 1975 gross enrollment in primary education throughout Brazil increased by 14.6%, from 17 066 093 to 19 549 249, equivalent to 87.7% of the corresponding age group. However, despite an annual enrollment growth rate of 3.4%, a considerable gap remains between the government's enrollment target and the actual situation. An analysis of the basic education system shows a high rate of students repeating grade levels, most frequently between the first grade and the second grade. In September 1977, *Veja*, a Brazilian magazine, reported, on the basis of statistics given by the Ministry of Education, that half of the 6.4 million Brazilian children who were attending the first grade of primary education were not going to be able to pass the school examinations to be promoted to the second grade. Most of the repeaters drop out of school after 2 or 3 years of frustrating experiences. Although policymakers continue to rely most heavily upon the expansion of primary education, it is now time to question the cost of having such a high rate of repeaters and dropouts in the Brazilian school system.

The Preliminary Diagnosis of Preschool Brazilian Education in 1973 reported that enrollment in the first grade of primary education was 2.4 times higher than the number of children 7 years old (the age of school entrance). The enrollment was 6.7 million, whereas the Brazilian 7-year-old population was only 2.8 million. The high rate of repeaters was pointed out as one of the reasons for such a concentration. Thus, to focus only on the expansion of primary education may not necessarily be the best policy in terms of the most effective deployment of resources.

Even though in Brazil the characteristics of the school system, such as low professional qualification of the teachers, poor physical conditions of the schools, irrelevant curricula, and often an almost total lack of teaching learning materials

[1]Centro de Estudios de Estado y Sociedad (CEDES), Av. Pueyrredón 510, 7° piso, 1032 Buenos Aires, Argentina.

have been considered as the major obstacles to success in school, it has recently been suggested that the problem is evidence of the negative effects of environmental factors during the first years of life — nutritional deprivation and the lack of educational stimulation. An analysis of the situation in primary education is compelling the authorities to focus on factors that exist before school — the child before and at the time of school entrance and the conditions affecting his or her development.

In Brazil, nutritional deprivation and the lack of educational stimulation represent environmental factors that obviously do not ensure optimal conditions for the development of the child. According to the "Infant-Mother Protection Coordination" (CPMI) of the Ministry of Health (Brazil), poor nutrition, characteristic of children of the lower socioeconomic class, is the cause of many organic deficits, such as rickets, anemia, and visual and auditory deficiencies, so common among Brazilian children. In a study carried out by Ana Maria Poppovic et al. (1975), the performance (mental capacity) of middle-class preschool children was compared with that of lower-class preschool children. The results indicated that lower-class preschool children were 2 years behind in their performance when compared with middle-class preschool children.

Preschool Education and its Current Trends

Although there has been some concern through Brazilian educational legislation to provide early childhood education, governmental planning has so far been modest. Consequently, educational programs for children who have not yet attained the age of compulsory school attendance (7 years old) are available only to a small proportion of the Brazilian preschool population. As reported by Ana Bernardes (1976), of a population of 9 746 712 children between 4 and 6 years old, only 686 390 children (7.04%) were enrolled in preschool programs. Of these, the majority (41.1%) were attending private schools. One can reasonably conclude that most children from low-income families did not have the opportunity to attend the available preschool programs. If one considers the present Brazilian population under the age of 7, 20 million approximately, the implementation of early childhood education in the Brazilian context represents a challenge. No doubt there have been attempts to face this challenge. Many programs for young children have been implemented by public and private institutions; some state public school systems are now providing some type of educational program for 4-, 5-, and 6-year-old children. There are also some private, industry-related, church, and social service child-care programs in existence. Such programs have been implemented in the form of direct assistance and or education. For instance, the nutritional and health programs have much more assistance than education. On the other hand, the programs that emphasize the educational component have been primarily traditional preschool programs that fail to take into consideration the real needs of Brazilian children, possibly because there is little information regarding the characteristics and setting of the Brazilian child's life.

There has been some concern on the part of the Brazilian government regarding provisions to integrate actions toward the implementation of early childhood programs. No doubt such a task gives rise to many difficult problems, many of which are common to most countries. Some of the problems are of a quantitative nature; others are matters of policy, organization, and administration. However, some activity in the field can be seen. Recently the federal government listed early childhood education among its top priorities for the 1980s. Thus, the issue of early childhood education is now recognized as being of major significance in the Brazilian educational context, after having been considered for a long time as a "luxury" for middle- and upper-class children. This shift is leading Brazilian authorities to avoid isolating the issue of early education and to try to integrate it into a comprehensive approach to educational and other policies.

This move is most clearly evidenced in specific programs proposed recently by the Ministry of Education. These programs aim to integrate education in the schools with community development. Thus, a much broader approach is now part of government planning. For instance, the Federal University of Ceará, together with the Office of Education, is implementing a program within a poor community of the city of Fortaleza. The program aims at integrated actions in the areas of health, education, cultural activities, and family planning, to find alternative ways in which the well-being of the community could be reached. The family is the target — and special attention is being given to children from birth to 6 years of age.

The implementation of programs such as those already mentioned will not only make the desired integrated action a reality but will provide valuable information about the characteristics and settings of Brazilian children's lives. So far, in Brazil, there is little research on the relationship

between early experience and the behavioural, social, and educational outcomes of early intervention. Obviously, this information will be valuable in current government planning of early education. There is a need in Brazil to bring together action and research to examine the context within which, and the process by which, early childhood education should be implemented. In this regard, a promising strategy seems to be the analysis of programs now in progress. Evaluation of current early childhood programs may be an important source of knowledge and direction.

Issues in Evaluating the Effectiveness of a Kindergarten Program

In this section some preliminary results of an evaluative study conducted in the Ceará state educational system are discussed.

The structure of the educational system of the state of Ceará, as is the case for the whole country, does not include preschool education. However, the system implements educational programs for children under the age of 7, by organizing kindergartens in some of its primary schools. In 1979, 328 kindergarten classrooms were operating in 132 primary schools of the public state educational system. The majority, 250, were located in Fortaleza, the state capital. Enrolled in these classrooms were 8691 children; 6859 of these in Fortaleza.

After 1 or 2 years of kindergarten these children were to attend the first grade of primary education along with a number of children who had not had the opportunity to attend kindergarten because, in the state of Ceará, the availability of educational facilities for children who have not yet attained the age of compulsory school attendance is still quite limited. It has been argued that the system cannot afford to extend education to young children because it does not even meet the existing demand for the first grade of primary education. For instance, in 1974, 733 000 students were enrolled in that level. This figure corresponded to 71% of the school population between 7 and 14 years old. This means that 29% of the children who were of school age (from 7 to 14 years old) did not have an opportunity to be enrolled in the state educational system. A brief look at the educational system of Ceará would show that the inability of the system to meet the existing demand for entrance into first grade of primary education is not the only problem faced by the system. In Ceará the problem of school failure, represented by the high dropout rate and by the number of students who fail to be promoted to second grade, is significant.

According to the First Five Year Development Plan of the State of Ceará (1975–79), from 1967 to 1972, of every 1000 students who entered first grade, only 70 reached eighth grade to obtain primary school diplomas. The bottleneck of the system is found at the passage from first grade to second garde, where the rate of promotion is only 22%. The student dropout rate is 50%, whereas the percentage of students who repeat the first grade is around 23%.

As it is being argued for the whole country, the problem of school failure in the state of Ceará is thought to be primarily owing to nutritional deprivation, a lack of educational stimulation, and the characteristics of the school system itself. However, until now no studies have indicated the real causes of such a high rate of school failure. If a lack of educational stimulation is considered to be one of the obstacles to success in school, would a year of kindergarten before first grade enable the children to perform better in the first year of school?

By addressing this question, the study reported here has two major objectives: (a) to provide an empirical description of the kindergarten program that is being developed in the state public schools of Ceará and (b) to analyze the effects of kindergarten experiences on the subsequent learning of young children.

Method: Experimental Design and Subjects

This study was carried out in Fortaleza, a city of more than a million people with many problems characteristic of rapidly expanding cities in developing countries, including a large number of families living in very low socioeconomic conditions. The children who were selected for this study were the offspring of such families. All of them were living in poorer sectors of the city. The average income of their families was US$50 per month and the level of schooling of their parents did not go beyond primary school.

The sample consisted of 57 children who, in 1979, attended part-time kindergarten for a year in public primary schools and 70 children who did not have this opportunity. Because the comparison groups could not be regarded as a random sample, various control procedures had to be used to ensure equivalence. One was to identify the two groups of children on the kindergarten registration day set by the Office of Education. Children enrolled in kindergarten in eight

different schools were selected to represent the experimental group. The control group was selected from among children whose parents had made an attempt to enroll them in kindergarten but had been unsuccessful because there were no more places in the schools. Thus, both comparison groups consisted of children for whom the parents had applied for admission. Apart from that, the two groups were matched for the following variables: sex, age, number of children in the family, and birth order (position of the child in the family). Because in the educational system of the state of Ceará to be enrolled in the first grade of primary education the child must be between the ages of 7 and 8, the children selected for this study were, at the time of kindergarten enrollment, between 6 and 7 years old. Later on in the study, because the control group had more children than the experimental group, a subgroup of 14 children formed a third group in the research design. This decision was made mostly because I wanted to observe how these children would react to a short-term program in which some reading-readiness activities were to be developed.

These three groups of children were followed up in their school performance into the first grade of elementary school. At the time of first grade attendance (1980) the children from the control and training groups were enrolled in one of the eight public schools, together with the children from the experimental group — the ones who had attended kindergarten the previous year (1979). The group was spread out in 26 classrooms. Each classroom had children from at least two groups: experimental and control. The training group children were all together in one school but were distributed among four different classrooms that also had children from the other two groups: experimental and control.

The eight schools were located in different sectors of the city. The children were enrolled in the schools the parents had applied to for admission to kindergarten. Generally, the parents applied for admission to the schools located in the sector of the city in which they lived.

Instruments and Procedures

Because the purpose of this study was not only to analyze the extent to which kindergarten experiences would have an effect on the subsequent learning of young children, but also to provide an empirical description of the kindergarten program being developed in the public schools of the state of Ceará, data collection fell into two areas: data on the kindergarten program and data on the assessment of the children's academic performance at school. Also, because the children were followed up into the first grade of elementary school, information about the educational opportunities (nature and implementation of the program) available to the children at that grade level was also gathered.

Data on the kindergarten and first-grade programs were obtained by means of questionnaires and interviews with administrators, supervisors, and teachers, and classroom observation and an analysis of curriculum material and planning. Because the first grade of elementary school emphasizes language development, more specifically reading and writing as major curriculum goals, the children's school performance at that grade level was assessed through academic achievement tests in areas such as reading skills and mathematical concepts. Rating scales were also used by the teachers to gather information on the children's interest in engaging in school-type activities. Data concerning the students' academic performance were also collected from school records. Figure 1 represents the testing sessions and the instruments used.

Testing was done by undergraduate students from the School of Education of the Federal University of Ceará. Before each testing session a training session that included a practice phase was given to familiarize the examiners with the format of the test and possible difficulties in application. Also, because the tests had been translated from English into Portuguese, a series of pilot studies was conducted to permit their adaptation to the Brazilian educational setting.

All the testing sessions were given at the schools. To ensure suitable conditions for the administration of the tests, the children were asked to come to the schools on Saturdays, just for the testing sessions. It should be pointed out that the school administrators and the parents of the children were extremely cooperative. As reported by the parents, the children loved to go to school for the "play session," as testing sessions were named. During the first year, when the control group children were not attending kindergarten, they were notified about the testing sessions through their siblings or friends at the school in which the sessions were taking place. To guard against examiner biases, the children were assigned to examiners randomly, and no information was provided regarding the treatment group.

Kindergarten and First-Grade Programs

The kindergarten program had the following main characteristics: broad objectives, with

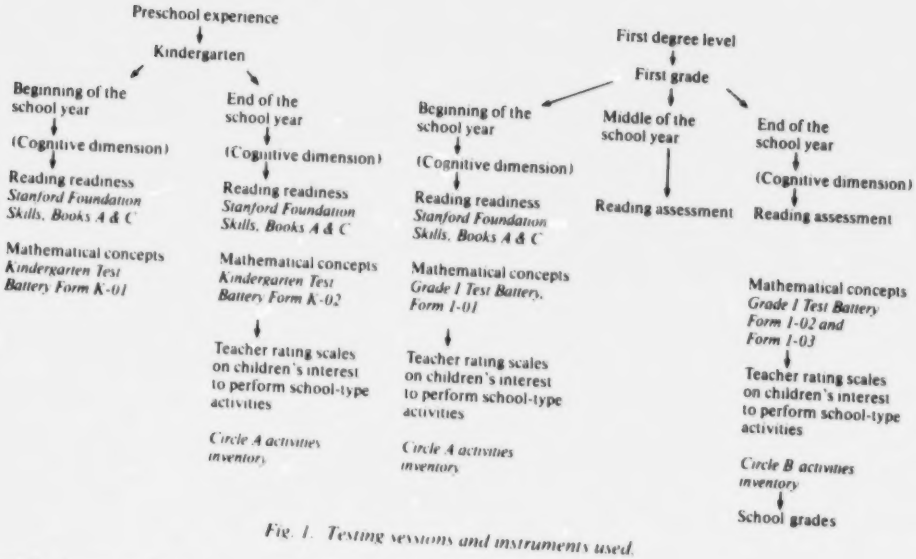
Preschool experience
Kindergarten
Beginning of the school year
(Cognitive dimension)
Reading readiness
Stanford Foundation Skills, Books A & C
Mathematical concepts
Kindergarten Test Battery Form K-01
End of the school year
(Cognitive dimension)
Reading readiness
Stanford Foundation Skills, Books A & C
Mathematical concepts
Kindergarten Test Battery Form K-02
Teacher rating scales on children's interest to perform school-type activities
Circle A activities inventory
First degree level
First grade
Beginning of the school year
(Cognitive dimension)
Reading readiness
Stanford Foundation Skills, Books A & C
Mathematical concepts
Grade 1 Test Battery, Form 1-01
Teacher rating scales on children's interest to perform school-type activities
Circle A activities inventory
Middle of the school year
Reading assessment
End of the school year
(Cognitive dimension)
Reading assessment
Mathematical concepts
Grade 1 Test Battery Form 1-02 and Form 1-03
Teacher rating scales on children's interest to perform school-type activities
Circle B activities inventory
School grades

Fig. 1. Testing sessions and instruments used.

emphasis on general personality development rather than training in specific skills. The program focused on a teacher child centred approach, embracing activities in the areas of language, arithmetic, motor coordination, science, art, and social events. There was also a lot of time for free play. A booklet for teachers set forth the objectives, recommended sequences, gave examples of activities, and indicated materials that could be used in the development of the program. At the same time the teachers were encouraged to act on their own initiative and to make a point of adapting activities and tasks to the children's interests and abilities. Observations showed that curriculum implementation was fairly uniform among kindergarten classrooms.

All the schools in this project were under a program in which the same physical facilities (classrooms and materials) were used by two groups of children. Each group was composed of an average of 30 children under the responsibility of one teacher. However, the teachers were directed to arrange their schedules to rotate use of the classroom facilities. For instance, while one group was using the classroom, the other group was using the open space available at the school for activities such as recreation, storytelling, and so on.

The first-grade program emphasized mainly reading and writing. Teacher instructions, most often directed to the whole class, predominated. Children had to spend a lot of time copying exercises from the blackboard, and other kinds of activities were almost nonexistent. Observations indicated that there were striking dissimilarities between the kindergarten and first-grade programs. This implied a serious discontinuity in the educational process that may be harmful to the children.

Preliminary Results

Because the data collected for this study are still being analyzed, only preliminary results can be reported at this time. The results reported here refer only to: (a) the school record data regarding the children's academic performance at the end of first grade (Table 1 summarizes the children's promotion to second grade by research group) and (b) the results of the data related to the children's language abilities.

The school records of the children's academic performance indicate that those children who attended 1 year of kindergarten were apt to be more successful in school than those children who did not have kindergarten experience. These data can be taken as a plausible indicator of the effectiveness of early education programs. They can be considered as concrete indicators of whether or not a child has performed acceptably within his or her educational institution.

The children's language abilities were assessed by the two following tests: the Stanford Foundation Skills and the Interactive Reading Assessment. The Stanford Foundation Skills test was

Table 1. Children's promotion and failure at the end of first grade according to school record data.[a]

Group	Promotion			Failure		
	Male	Female	Row total	Male	Female	Row total
Kindergarten experience	14	22	36	14	6	20
No kindergarten experience	9	9	18	17	18	35
Training	4	3	7	3	4	7
Total	27	34	61	34	28	62

[a]During the first grade, four children dropped out from the schools, one female from group one (kindergarten experience); two females and one male from group two (no kindergarten experience).

given three times as a pretest: at the beginning of the school year (1979), at the end of kindergarten, and at the beginning of first grade. The Interactive Reading Assessment was only given once as a post-test at the end of first grade.

A comparison of the mean scores on the Stanford Foundation Skills subtests, BK A-Alphabet Recognition, BK A-Figure Matching, and BK C-Phoneme Identification, indicates that differences between the kindergarten, training, and no-kindergarten groups were not statistically significant. Only in the subtest BK B-Rhyme Identification, was the difference in the mean scores of the kindergarten group statistically significant. However, when the mean scores for the four Stanford Foundation Skills subtests were compared, no difference between the groups was statistically significant.

The Interactive Reading Assessment given as a post-test is comprised of six subtests: decoding words, decoding nonsense words, alphabet recognition, story reading, reading comprehension, and listening comprehension. A comparison of the mean scores of the total point ratings of the Interactive Reading Assessment indicates that the children who attended 1 year of kindergarten, as well as the ones who attended the short training program, were able to perform better on the test than the children who did not attend kindergarten.

In conclusion, I would like to raise a final issue for future consideration. If we look at the results on the separate subtests of the Interactive Reading Assessment, we are perhaps inclined to conclude that scholastic experience before entering first grade does make a difference in the subsequent learning of young children. In connection with this finding, however, it may be useful to consider what specific types of reading activities schools are in fact offering to the children.

The results of the subtests that involve decoding and oral production show the impact of prior experience, whereas the results of the comprehension subtests do not indicate any such impact. These findings may be attributable to the fact that schools are less concerned with developing thought processes than with developing more mechanical processes. If this is true, perhaps future studies of the effect of previous experience on scholastic performance should include a consideration of the emphasis Brazilian schools are placing on these different types of skills.

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Relationship Between Preprimary and Grade One Primary Education in State Schools in Chile

Johanna Filp, Sebastián Donoso, Cecilia Cardemil, Eleonor Dieguez, Jaime Torres, and Ernesto Schiefelbein[1]

This study forms part of a larger project conducted in four Latin American countries during the last 2 years. The countries involved were Argentina, Bolivia, Colombia, and Chile and the general objective was to study the influence of preprimary education upon learning outcomes in primary school.

The specific focus of the study conducted in Chile was to identify the influence of preschool education (1 year before entrance into grade 1) upon learning outcomes in grade 1. An important aspect of this study was the analysis of the quality of education, as observed in the classrooms of schools and preschools that cater to children from different socioeconomic levels.

Background

One of the main problems that affects the Chilean school system is the early dropout rate of the students (Bravo and Salas 1976). This problem is particularly acute in the poorer social sectors. Results of a recent study conducted in Chile show that only 10% of children from homes where the parents are illiterate finish their basic education. In the case of children whose parents have completed their basic education, this percentage reaches 43%. Where the parents have completed their secondary or university education, 100% of the children complete their basic and secondary education (Schiefelbein and Farrell 1978).

A close relationship between school dropout rates and grade repetition has been established (Bravo 1978). It has been estimated that in Chile 50% of the children fail to be promoted from grade 1 to grade 2 (Schiefelbein 1977).

Several explanations have been offered to account for this problem. These can be grouped according to the level of the social system at which the causes are sought. One thus finds explanations at the social structural level (Bordieu and Passeron n.d.), at the school level, and in studies focusing on family factors (Bralic et al. 1978; Caldwell 1970; Yarrow et al. 1972) or on personal factors (Bravo et al. 1975; Engle et al. 1973; Kardonsky et al. 1973; Monckeberg 1973).

In this study the analysis centres on the school-related factors. This decision was based upon the assumption that there exist appreciable differences in the quality of education received in schools that cater to children from different socioeconomic backgrounds, and that it is necessary and possible to introduce changes that would benefit children from the poorer sectors of society.

The School as the Focus of Analysis

School systems have been criticized and analyzed from different points of view (Illich 1971; Nuñez 1980). Specific aspects that have been studied in Chile or other countries are, for example: the availability of teaching aids and textbooks, teacher qualifications (Schiefelbein and Farrell 1978), teacher attitudes (Rist 1970), use of language in the classroom (Bernstein n.d.) and teacher expectations (Rosenthal and Jacobson 1968).

The analysis of school factors related to grade 1 outcomes can be made from two angles. On the one hand, it is possible to study certain aspects of education in grade 1 and attempt to change the problems that are encountered there. On the other hand, one can search for solutions at lower levels of the system, such as preprimary education.

[1]Centro de Investigación y Desarrollo de la Educación (CIDE), Erasmo Escala 1825, Santiago 1, Chile. This study was financially assisted by the International Development Research Centre of Canada.

Influence of Preprimary Education on Grade One Outcomes

Several objections can be raised to the proposition of searching for solutions to learning problems in grade 1 at the preprimary level. First, there exist serious problems at the primary level of education. Any benefit obtained through preschool education might be lost if these are not solved.

Second, preschool education reaches a very low proportion of the population, about 12% of children under age 6. In addition, preschool services have traditionally catered to children from middle- and high-income families (Filp and Latoree 1978). When comparing the costs of government preschools and primary schools in Chile, the former are from two to six times more expensive than the latter (Filp and Latorre 1978). One might add that several studies conducted in other countries have questioned the effectiveness of preschool in reducing school failure at the primary level (Bralic et al. 1978; Cicarelli et al. n.d.; Smilansky 1977).

Finally, one may also argue that the objectives of preschool should not be limited or narrowed down to preparation for primary education, because this may mean that the more positive pedagogical approach of preschool education is lost for the sake of preparing the child for primary school.

Notwithstanding these objections, there are at least four main reasons that justify more extensive study of the influence of preprimary education upon success in grade 1. First, there is substantial evidence to show that environmental and psychosocial factors during the first year of life affect the development of the child. Several studies show that environmental factors such as affective stimulation and nutrition affect the development of the child and provide an important basis for normal future psychosocial, cognitive, and physical development (Bralic et al. 1978; Cicarelli, et al. n.d.; Smilansky 1977).

The results and conclusions of these studies have led to the development of different early childhood education programs, in both Latin America and the United States (Mauras et al. 1979). In this region, preschool education has been given a high priority in the educational policies of many Latin American countries, in particular, in Bolivia, Argentina, Colombia, and Chile where there are plans to increase enrollment at the preprimary level (CEBIAE et al. n.d.). However, in these countries there are no studies to analyze the effectiveness of the programs that are presently in existence. It is not known whether there is any relationship between preschool attendance and educational outcomes in primary school, such as promotion, achievement, or school dropout rates (CEBIAE et al. n.d.).

Other studies in the United States offer positive evidence as to the impact of preschool education on children's success in school (U.S. Dept. of Health, Education and Welfare 1977). For example, in the "Perry Preschool Program" follow-up study it was found that the effects of a specific preschool program were detected after 8 years of primary education. Children who had attended the preschool program were less likely to be in special classes than children from a comparable control group with no preschool education (Weikart and Schweinhart 1977).

Finally, an important point must be made with regard to the long- or short-term effects of preschool education. Several studies conducted in other countries have shown that children with preschool education have higher levels of intellectual or cognitive development than children with no such preparation. These gains, however, appear to be lost by the end of grade 2 (Smilansky 1977).

In Chile, the highest rates of school failure are observed at the end of grade 1. Therefore, in our case, it would already be very positive even if the effects of preschool were noticeable only up to that point.

Grade One Education

During the first 6 years of life the child is gradually being prepared for the "big step," which is entrance into school. Upon crossing this threshold the child has to adjust to specific expectations, habits, social norms, and values.

Traditionally, in our country, the highest repetition rates have been observed in grade 1 (Schiefelbein 1977). In addition, even if the child does not fail, it has been found that the school experience at this level, specifically the relationship with the teacher, can have important consequences for the child's future life in school and for his or her occupational development as an adult (Pedersen et al. 1978).

General Aspects of the Study

The aforementioned points led to the design of a follow-up study of a sample of children attending preschool. Only free-of-charge services were considered, because these are the ones that cater to children from poorer families. In Chile, these are the preprimary classes that depend upon the Ministry of Education and the preschools of the

"Junta Nacional de Jardines Infantiles" that depend upon the Ministry of the Interior. The former are usually annexed to a primary school and the children attend half a day. The latter operate in a separate building, and the children receive food and educational services and stay for a full day. The percentage of children served by these preschools is much lower than in the preprimary classes of the Ministry of Education (Filp and Latorre 1978).

Private preschools were not considered because they cater to children from middle- and high-income families and usually charge high fees.

The group of preschool children was followed up to the end of grade 1 and their outcomes were compared with a comparable group of children who had not had preprimary education.

Objectives

This study has two objectives. The first is to determine whether or not preschool education, at the preprimary level, contributes to school success at the end of grade 1.

Here one can expect three alternative answers: (a) preschool education has no effect owing to the lack of articulation between the two levels and the responsibility for success or failure in grade 1 lies at this level and not at the preprimary level; (b) it is possible that preprimary education may increase the differences in school achievement observed between children from different socioeconomic groups. This could occur because the cultural orientation of preschool education is more similar to that observed in higher, rather than in lower, socioeconomic groups. This congruence could lead to better learning and, therefore, to an increase of the differences between the groups; and (c) preschool education may contribute to the school success of children of poorer sectors of society.

The second objective is to analyze some characteristics of the process in the classroom to detect differences between schools that cater to children from different socioeconomic backgrounds. This would provide a basis for understanding which factors in the classroom are facilitating or hindering the achievement of children from low socioeconomic groups.

Variables

The main variables that were considered are the following:

(a) *Socioeconomic level of the family group:* This variable served as a basis for the classification of the socioeconomic level of the school. It was also used as a control variable. Operationally it was defined by the level of education attained by both parents and their occupations.

(b) *Preschool attendance:* Two groups of children were considered, those who had attended preschool the year before entrance into grade 1 primary education and those with no preschool.

(c) *Preschool modality:* Two programs were considered, preschools annexed to a primary school and those operating in a separate building with their own premises, directives, and administrative staff.

(d) *Socioeconomic level of the school:* This variable played an important role in the stratification of the sample. It was defined on the basis of dominant trends in the socioeconomic variables of the families of the student population at a given school.

(e) *Quality of the process in preschool and in grade 1:* This was defined on the basis of some aspects observed in the teacher pupil relationship in the classroom.

(f) *Level of preparation upon entrance into grade 1:* This was defined on the basis of the reading readiness of the child.

(g) *Grade 1 outcomes:* Two criteria were used in defining this variable, one internal (related to the school) and one external. The first was based upon the grades that the child received in school in math, reading, and writing. Initially, promotion from grade 1 to grade 2 was also going to be considered. However, this information could not be obtained because during 1980 automatic promotion was implemented. The external criterion of success was determined by evaluating the children's achievement in reading, writing, and mathematics by means of objective group tests applied by the research team.

Additional variables were included as control variables, because other studies have reported relationships between them and school achievement. These were: exposure to mass media communication, degree of crowding in the home, parent attitudes toward preschool education, age of the child, birth order of the child, number of siblings, the relationship between home and school, and nutritional status of the child.

The Sample

The sample of children and of preschools was selected in the urban area of the Municipality of

Ñuñoa, located in the metropolitan area (where Santiago, the capital of Chile, lies). The sample reflects the main socioeconomic tendencies of the population and represents the different types of free-of-charge preschool services that are most prevalent in the country. Three preschools were selected in the urban area, located about 20 km from the capital.

The socioeconomic levels included in the sample are, according to Sepúlveda (1976), low, middle-low, and middle-middle. The socioeconomic distribution of the student population enrolled in government schools is somewhat different from the overall national distribution.

On the one hand, one rarely finds children from high-income groups. These usually enroll in private preschools where high fees are charged. In many cases children have to go through an entrance examination where their intellectual level of development is evaluated. Entrance into these preschools is competitive and usually guarantees entrance to the more expensive and high-status primary schools. On the other hand, the sample does not include children from the very poorest social sectors, because they usually do not attend school.

Preschool Sample

In 1979, a total of 20 preschools were selected and, in each, one preprimary grade. Thus, the sample was represented by 499 children. We consider this size as adequate to answer the questions posed, although it is not representative numerically or statistically of the total population.

The 20 preschools were classified according to the socioeconomic level (SEL) of their student population (Table 1).

Tables 2 and 3 present the educational and occupational characteristics of the parents of the children in the sample, according to the socioeconomic level of the preschool.

The dominant trends observed in the different sectors are the following: low SEL preschools (rural and urban), incomplete primary education and unskilled manual labourers; middle-low SEL preschools, complete primary education or incomplete secondary education and office employees; and middle-middle sector preschools, complete secondary education and professionals, technicians and office employees.

The Sample in the Grade One Phase

This sample was represented by two groups: children who were followed up from preschool (1979) and children with or without preschool and entering grade 1 in the primary school selected for the second phase (1980).

The selection of the sample in 1980 was limited by the fact that observations were going to be carried out in the classroom of the children considered in the sample. This meant that we had to limit the number of classes selected. The first unit of selection was, thus, the class, and, here, priority was given to these classes where the highest number of children from the preschool sample were found.

A total of 204 children from the 499 of the preschool sample (40%) were included in the sample during the second phase. The remaining children of the preschool sample were either not located (N=186) or not included in the sample (N=109) because they were dispersed in various primary schools not selected for the sample.

The largest number of lost cases was among the children at the separate preschools (78%), owing to the fact that the children enrolled in these programs often live quite far away from the preschool, in various neighbourhoods, and most of them enroll in primary schools close to their homes.

Table 4 presents the details of the sample, classified according to the socioeconomic level of the primary school and to prior preschool attendance. It can be seen that the number of children without preprimary education is relatively low (22.4%), which is not surprising in the middle-

Table 1. Preschools selected for the study, classified according to socioeconomic level.

Socioeconomic level of the preschools	Preschool modality				Total no. of students
	Annexed		Separate		
	Preschools	Students	Preschools	Students	
Low urban	3	81	4	106	187
Middle-low	2	52	3	76	128
Middle-middle	4	105	1	25	130
Low-rural	3	54			54
Total	12	292	8	207	499

Table 2. Level of schooling of mother and father of the sample children, classified according to the socioeconomic level of the preschool.[1]

Socioeconomic level of preschool	Educational level of parents												Total number	
	Illiterate with or without schooling		Incomplete basic education		Complete basic education		Incomplete secondary education		Complete secondary education		University			
	Father (%)	Mother (%)	Father (%)	Mother (%)	Father (%)	Mother (%)	Father (%)	Mother (%)	Father (%)	Mother (%)	Father (%)	Mother (%)	Father	Mother
Low rural	9.4	7.5	47.1	49.1	24.1	28.3	9.4	7.5	9.4	5.6		1.8	53	53
Low urban	9.7	4.3	37.6	50.8	28.1	25.3	21.9	16.2	7.8	4.3	1.1		178	185
Middle-low	1.0	1.5	9.2	14.8	21.1	31.3	30.5	27.3	25.2	20.3	9.2	4.7	119	128
Middle-middle		1.0	3.2	13.9	11.5	10.0	26.4	33.9	27.2	35.4	15.4	6.2	121	130

[1] Level of schooling of father: $chi^2 = 146.44$, $N = 15$, $p < 0.001$. Level of schooling of mother: $chi^2 = 150.10$, $N = 15$, $p < 0.001$.

middle SEL schools, because the great majority of children in these social groups attend preschool.

However, this tendency is unusual in the low and middle-low sectors, because the national percentage of children enrolled in preprimary education is low (about 10% of the eligible population).

Part of the explanation is the fact that principals tend to group all children with preschool education in the same classroom. It was, therefore, necessary to select an additional grade 1 classroom in each of the primary schools to have access to children with no preprimary education.

An additional factor that explains this trend is related to the fact that we worked mostly with primary schools with an annexed preprimary grade. Most of the children from this level continue their primary education in the same school, with the result that a high proportion of the students have attended preschool.

The occupational and educational characteristics of the parents of the children in the grade 1 sample are similar to the tendencies observed in the preschool sample (Filp et al. 1981).

Trends in the Preschool Sample up to Grade One

A comparison of the group of children considered in the preschool phase of the study and the subsample of these, who were in grade 1 and followed up until the end of that school year, found no differences with regard to age ($t = 0.55$; $v = 463$; n.s.), occupation of the father ($t = 1.73$; $v = 433$, n.s.), occupation of the mother ($t = 0.56$; $v = 460$; n.s.), but significant differences with respect to the father's level of education ($t = 2.53$; $v = 438$; $p = 0.01$).

The fathers of the children that were in grade 1 from the preschool sample had, on the average, higher levels of formal education. This tendency must be taken into account in the overall interpretation of the results because the children from the poorest families were not included in the grade 1 sample.[2]

Children With and Without Preschool Education

Children with and without preschool education in the grade 1 sample were compared with respect to age, sex, parents' education, and par-

[2] This trend is often noted in studies of school dropout rates.

Table 3. Father's occupation according to the socioeconomic classification of the preschools.[a]

Socio-economic level of preschool	Father's occupation: Professional technician armed forces officer (%)	Office employee armed forces NCO (%)	Sales person (%)	Driver (%)	Skilled manual labourer (%)	Unskilled agricultural worker (%)	Total
Low rural		2.0	8.0	6.0	12.0	72.0	50
Low urban	1.8	8.6	8.1	11.2	29.8	40.4	161
Middle-low	15.0	31.0	8.0	9.0	23.0	24.0	100
Middle-Middle	16.8	26.6	16.8	15.1	19.5	5.3	113

[a] 'Chi' = 146.44, N = 15, $p<0.001$

Table 4. Description of the sample of children studied at the grade 1 level classified according to the socioeconomic level of the primay school.

Socioeconomic level of the primary school	Number of children in grade 1 (1980)	Number of children in the preschool sample (1979)	Number of children with preschool education[a]	Number of children with no preschool education
Low rural	65	29	53	10
Low urban	198	66	143	48
Middle-low	132	46	77	46
Middle-middle	189	63	163	33
Total	584[b]	204	436[b]	126[b]

[a] This group includes the children of the preschool sample as well as children with preschool education enrolled in the grade 1 classes selected for the study but from preschools not studied during 1979.
[b] No information was available for the remaining missing cases.

Table 5. Summary of the instruments and procedures used to collect the information for the study.

Information collected	Instrument used	Procedure
Socioeconomic characteristics of the family, background information of the child, parents' expectations and attitudes toward preschool education.	Parent questionnaire	Individual interview
Academic training and working experience of teachers, their expectations with regard to preprimary education.	Questionnaire	Self-administered
Reading readiness of children upon entrance into grade 1.	Prueba de Funciones Básica, by N. Milicic and O. Berdicewsky	Group administration
Nutritional status of the child upon entrance into grade 1.	Medical scale "Detecto Scale"	Measurement of height and weight of the children
Level of achievement in numerical operations and concepts at the end of grade 1.	Objective math test by P. Zanocco	Group administration
Level of achievement in reading and writing at the end of grade 1.	Reading and writing test	Group administration
Quality of the learning and teaching process in the classroom at preprimary and grade 1 primary levels.	Open observation record	Direct observation in the classroom, using the time sampling method. Three sessions, 90 minutes each.

ents' occupation. No differences were found in low (urban and rural) and middle SEL schools. Differences were found with respect to father's education in the middle-low SEL schools ($chi^2 = 27.0$, $N = 3$, and $p = 0.001$) and in the rural schools (Fisher's Exact Probability Test, $p = 0.002$). In both cases, higher levels of father's education were found in the group of children with preschool education.

Instruments and Procedures

The description of the various instruments and procedures employed to obtain the required information is presented in Table 5. With regard to the observation in the classroom, intraobserver stability was calculated during five observation sessions in five different schools. The Kendall Coefficient of Concordance was used for this purpose. The values obtained for the observations carried out in each of the five schools ranged from 0.60 to 0.70 ($p = 0.05$). Interobserver reliability was estimated at 85% based on the degree of consistency obtained in coded observations.

The categories used to analyze the observation records were defined along three dimensions: the teaching techniques of the teacher, the teacher's attitude toward the student and the disciplinary measures applied by the teacher.

The teaching techniques were defined as the methods used by the teacher to ensure that the children achieve certain academic goals. The behaviour expected was classified as either repetitive or elaborative. When the children were asked merely to repeat what the teacher had presented, the behaviour was classified as repetitive. The behaviour was classified as elaborative when the child was given an opportunity to learn in an active way, to present his or her own perspective and experience, to explore.

The specific behaviours considered in each category were the following:

Elaborative	Repetitive
The child learns through direct exploration of the world	The teacher presents or describes the world to the children
The teacher asks questions that stimulate the children's elaboration	The teacher's questions are closed, so that the children have to respond with one word or repeat what the teacher has presented
The teacher uses errors as a learning instance	The teacher only points out the error

Teacher-child attitude was defined as the teacher's appreciation of the child, his or her initiatives and cultural and social world. Here behaviours were categorized according to whether they disqualified the child and his or her initiatives or whether they conveyed appreciation and, thus, furthered the development of a positive self-image of the child.

The specific behaviours considered under these categories were the following:

Appreciation	Disqualification
Teacher stimulates initiatives of the child	Teacher inhibits initiatives of the child
Teacher emphasizes respect for everybody	Teacher merely demands respect for self
Activities are proposed by the children	Activities are proposed by the teacher
Teacher verbally expresses appreciation of the child	Teacher verbally disqualifies or rejects the child
Teacher expresses interest in the child's problems	Teacher ignores the requests of the child

The disciplinary measures employed by the teacher range from a simple mention of the fault to physical punishment.

Results

Preschool Education and Reading Readiness at the Beginning of Grade One

To determine the relationship between preschool education and reading readiness at the beginning of grade 1, a comparison was carried out between average scores obtained on the reading readiness test by children with and those without preschool education. The results are presented according to the different socioeconomic levels of the preschools (Table 6).

The comparison of these results (by means of analysis of variance) showed that there exist significant differences between the average scores obtained by children in preschools of different socioeconomic levels. The lower the socioeconomic level of the preschool, the lower the average score observed. Significant differences were also found between children with and those without preschool education.

The most interesting result appears in the significant interaction effect between preschool attendance and socioeconomic level of the preschool. Only children from low (rural and urban) and middle-low socioeconomic levels benefited

Table 6. Average scores obtained on the reading readiness test by children with and without preschool education classified according to the socioeconomic level of the preschool they attended.

Socioeconomic level of preschool		Average scores obtained on the reading readiness test		
		Total group	Children without preschool	Children with preschool
Low rural	$\bar{X}$	47.48	31.20	50.61
	SD	25.97	29.68	24.27
	N	61	10	51
Low urban	$\bar{X}$	46.03	37.97	48.10
	SD	27.38	24.99	27.22
	N	193	50	143
Middle-low	$\bar{X}$	66.02	50.00	77.48
	SD	27.20	25.69	21.04
	N	122	45	77
Middle-middle	$\bar{X}$	68.85	62.54	69.81
	SD	22.20	21.33	21.89
	N	190	27	163

from preschool. No significant differences were obtained between children with and those without preschool education in the middle-middle SEL schools.

Success at the End of Grade One and Preschool Education

Are the differential effects of preschool education still present at the end of grade 1?

Four different indicators were used to answer this question: (a) scores obtained on a reading and writing test, (b) scores obtained on a math test, (c) final grades assigned by the teacher to the children at the end of grade 1 in reading-writing, and in (d) math.

The general effects of preschool education are still present. That is, when considered independently on the socioeconomic level, children with preschool education obtain higher scores, on the average, than children without preschool education. Also, the results show that the average scores on the reading test increase the higher the socioeconomic level of the school.

However, after analyzing the specific trends at each socioeconomic level, it was found that the differential effects of preschool were lost in schools of low socioeconomic levels (both rural and urban) and were present only in the schools of middle-low socioeconomic levels.

Why were the initial benefits of preschool education lost? This question will be answered when we analyze the quality of the process in grade 1 classrooms in schools of different socioeconomic levels.

It is interesting to compare these results with the grades the teacher assigned to each child in reading and writing. With the exception of children in rural schools, no differences were observed between children with and those without preschool education. This is an interesting result because teachers' grades did not reflect the differences in reading achievement of children with and without preschool education detected in the schools of middle-low socioeconomic levels. How can we explain these results? Why do children with higher levels of reading achievement not receive higher grades?

A study was carried out with a subsample of the children by Assael et al. (1981). It was found that teacher grades were related to noncognitive variables of the child, such as personal appearance and social behaviour in the classroom. Children who wore clean clothes and had fair hair and skin were more likely to obtain better grades than children wearing old, worn-out clothes, with darker hair and skin. (The correlation was relatively low but significant. Spearman Rank Correlation Coefficient = 0.17; $p<0.05$.) Children who complied with the social norms of "how a good student behaves" (i.e., followed instructions, did not get up from the desk, were obedient, did not quarrel with classmates, etc.) also had a higher probability of receiving good grades (Spearman Rank Correlation Coefficient = 0.45; $p<0.001$).

The results related to the levels of achievement in numerical operations are shown in Tables 7 and 8.

Again, we find that the levels of achievement increase the higher the socioeconomic level of the school. Children with preschool education exhibited higher levels of achievement than children without preschool education but no specific trends were detected in the different socioeconomic levels of the schools.

Table 7. Average scores obtained on the math test at the end of grade 1 according to the socioeconomic level of the school and to preschool attendance of the child (maximum score possible = 140)

	Socioeconomic level of the school							
	Low rural		Low urban		Middle-low		Middle-middle	
	With preschool	Without preschool	With preschool	Without preschool	With preschool	Without preschool	With preschool	Without preschool
$\bar{X}$	82.02	71.10	76.99	73.63	91.86	78.20	94.19	86.77
SD	25.96	21.49	22.33	27.21	21.38	24.37	19.48	20.46
N	49	10	134	41	75	44	157	22

Table 8. Analysis of variance of the scores obtained by children on the math test.

	F	df		F	df
Principal effects			*Interactions*		
Socioeconomic level of the school (A)	16.41[a]	3	A × B	0.99	4
Preschool attendance (B)	2.9[b]	2			

[a] $p = 0.05$
[b] $p = 0.01$

The grades that the teacher assigned in math at the end of the school year did not reflect any differences between children with and those without preschool education.

It was not possible to assess the impact of preschool education upon promotion from grade 1 to grade 2, because according to a recently introduced rule, promotion is automatic from grade 1 up to grade 3 of primary education.

Influence of the Socioeconomic Level of the Primary School vs the Home and the Child's Background

One interesting trend that appeared repeatedly in the analysis of grade 1 outcomes was the relationship between the socioeconomic level of the school that the child attended and learning outcomes at the end of grade 1.

Does this imply that schools in low socioeconomic sectors have characteristics that hinder the learning process of the students? The answer to this question is not clear, because one could argue that the children in schools of low socioeconomic levels come from homes with serious economic and psychosocial difficulties that affect the child's learning. In addition, children from poorer sectors of society also present problems of malnutrition, which could influence the learning process in school and academic outcomes at the end of grade 1.

To answer some of these questions, grade 1 outcomes in schools of different socioeconomic levels were analyzed again, but controlled for the effect of the following family variables: education and occupation of father and mother, number of siblings, number of textbooks and books in the home, and degree of crowding in the home. The child variables considered were: age of the child, birth order of the child, and problems of malnutrition, measured by means of the child's height (standardized according to age).

All of these control variables were significantly related to learning outcomes at the end of grade 1. For example, the father's occupation and education, total number of siblings, degree of crowding in the home, and problems of malnutrition were significantly related with all the learning outcome measures (reading readiness, achievement level in reading, and achievement level in math). The mother's education was related to the level of reading readiness and level of reading.

These results are important because these factors are indicators of the level of income in the home, and of the social and physical conditions in which the child grows up. Nevertheless, even after controlling for the effect of these variables, the trends in learning outcomes, according to the socioeconomic level of the school, are still present.

When the children whose mothers had an incomplete basic education or fewer years of schooling attended a primary school of a low socioeconomic level, their level of achievement was much lower than when they attended grade 1 in a school of a middle-middle socioeconomic level. In addition, children whose mothers had completed their secondary or university education but who went to a school of a low socioeconomic level had lower scores than children whose mothers had an incomplete basic education but who attended a school of a middle-middle socioeconomic level.

Similar trends appeared with regard to achievement levels in reading, but the differences were not as marked as in the former case, because the test had a relatively low level of difficulty.

How can these trends be explained? What differences exist between schools of different socioeconomic levels?

Quality of Education in Schools of Different Socioeconomic Levels — Primary Schools

Schools of different socioeconomic levels were compared in three areas: quality of physical conditions in the school, teacher's academic background and working experience, and the teaching and learning process in the classroom.

No marked differences were found among schools of different socioeconomic levels with regard to the quality of the school structure, equipment in the classroom, general conditions of the washrooms, etc. (Filp et al. 1981). At all levels the physical conditions were not adequate: no heating was available for the winter, the washrooms were badly kept and the courtyard usually was an open area with no equipment or trees. However, there were sufficient benches for the children, most windows had glass panes, and the floors were either concrete or wood.

The teachers' academic background and working experience were also quite similar in schools of different socioeconomic levels. All the teachers were women with formal teacher training, a teaching diploma, and comparable working experience (Filp et al. 1981). Differences were observed, however, after comparing some aspects of the learning and teaching process in the classroom.

The observation records were analyzed and the frequency of occurrence of certain events was registered. To detect differences in classroom processes in schools of different socioeconomic levels, we noted in which schools certain events occurred most frequently (one SD above the mean). On the basis of this analysis, some interesting trends were discovered in schools of low SEL and of middle-middle SEL (Table 9).

In low SEL schools, teachers emphasized repetitive activities, which were initiated and evaluated by the teacher. Severe disciplinary measures (including physical punishment) were applied, together with positive recognition of the

Table 9. Analysis of differences in the classroom process (grade 1) in schools of different socioeconomic levels. Events that occur predominantly in schools of one socioeconomic level.

Events	Socioeconomic level of the school				
	Rural low (N=3)	Urban low (N=8)	Middle-low (N=5)	Middle-middle (N=9)	Total values one SD above mean
Rural low SEL school					
Teacher gives instructions	2	1		1	4
Low SEL schools					
Teacher points out the error		2			2
Teacher initiates activities		2	1		3
Teacher supervises, evaluates		3		1	4
Teacher demands respect for herself		2		1	3
Teacher gives positive recognition to the child		3		2	5
Teacher gives positive recognition to the group		2			2
Students reject the activities proposed by the teacher		2	1		3
Teacher threatens the child		2		1	3
Teacher ridicules the child or punishes morally		4			4
Teacher punishes the child physically		2		1	3
Middle-low SEL schools					
The pupils work on the basis of repetition		1	2	1	4
The pupils accept the teacher's suggestions			2	1	3
Middle-middle SEL schools					
Pupils work on the basis of elaboration		1		2	3
Teacher uses the error as a learning instance				4	4
Teacher helps the students to find the answer through clues or questions	1	1	1	4	7
Students initiate or propose activities			1	2	3
Teacher inhibits initiatives of pupils	2	1		4	7

work carried out (the latter usually consisted in saying "okay, that's right"). Thus, the teacher appeared to play the role of the "judge who applies severe disciplinary measures."

In schools of the middle-middle socioeconomic level, students were able to elaborate in their work and to initiate activities more frequently. Teachers played the role of a guide in the learning process of the child by using cues and questions. No specific trends were observed with regard to disciplinary measures.

These observations suggest that the process in the classroom differs in schools of different SEL. The affective climate in low SEL schools may indeed play a role in the low achievement levels observed in these schools.

They also may be responsible for the "loss" of the initial advantage (in reading readiness) with which children with preschool education entered into grade 1. This explanation is further supported by the differences that were detected between the process observed in the classroom at the preschool level and grade 1 level.

Classrooms at the Preschool Level and in Grade One

Preschools of all socioeconomic levels presented better conditions than grade 1 classrooms in terms of educational aids, physical conditions of the building and of the classroom, and in terms of the learning and teaching process (Table 10).

In preprimary classrooms children were given more opportunities to elaborate and learn in an

Table 10. Comparison of relative frequencies of occurrence of events observed in preschool and grade 1 classrooms.[1]

	Average frequency (F_1) in preschool classrooms (N=19)	Average frequency (F_2) in grade 1 classrooms (N=26)	Mann-Whitney "t" statistical test of differences	
			t	p
Pupils work on the basis of repetition	1.04	2.1	2.42	0.008
Pupils work on the basis of elaboration	2.82	1.2	2.33	0.01
Teacher uses the error as a learning instance	0.22	0.66	3.09	
Teacher inhibits child's initiatives	0.66	0.90	1.82	0.03
Teacher initiates activities	11.20	8.16	2.48	0.006
Pupils initiate activities	6.59	4.7	1.82	0.04
Pupils reject teacher's proposals	0.02	0.16	5.30	
Teachers supervises, evaluates	4.85	7.25	3.08	
Teacher stimulates competition	0.30	0.20	2.01	0.02
Teacher demands respect for herself	0.03	0.13	5.35	
Teacher expresses recognition for the group	0.20	0.22	2.90	0.002
Teacher expresses positive opinions of the group	1.56	0.59	2.26	0.01
Teacher expresses negative opinions of the child	0.67	0.81	1.71	0.04
Teacher expresses negative opinions of the group	0.15	0.20	4.08	
Teacher expresses interest in the child's personal problems	1.73	1.12	1.89	0.03
Teacher ridicules the child or punishes morally	0.31	0.56	2.10	0.02
Teacher punishes physically	0.07	0.11	4.2	

[1] These values were obtained as follows: (a) the frequency with which the events occurred was recorded for each classroom observation session, (b) the frequencies recorded for each were totaled after three observation sessions in each classroom, (c) this total was divided by the total number of events recorded in the three sessions, and (d) the average frequency of occurrence of each event was calculated by adding the respective value observed in each classroom and dividing this amount by the total number of classrooms observed.

active way than in grade 1. Both teacher- and child-initiated activities appeared more frequently than in grade 1.

The affective relationship between teacher and pupil was more positive in preschool than in grade 1. In the latter, teachers explicitly expressed their negative opinion of the child, inhibited the initiatives of the children, and requested respect only for the teacher. Moral and physical punishment also occurred more frequently.

In preschool, teachers expressed interest in the children's personal problems, expressed their positive appreciation for the child, and demanded respect for everybody.

In addition, the differences between preschools of different socioeconomic levels were not as extreme as the trends observed in the grade 1 classroom. Again, two different sets of events appeared more frequently in preschools of low and middle-middle SEL.

In low SEL preprimary grades the process in the classroom was characterized by the teacher making sure that the children learned by using frequent explanations and helping the child to find the answer. The emphasis was placed on the protective parental role of the teacher. The general climate created was quite similar to the one observed in grade 1 classrooms of middle-middle SEL schools. In middle-middle SEL preprimary classrooms teachers provided learning situations where the child could work and learn more independently.

It is interesting to relate these trends to the results of the reading readiness tests of children upon entrance to grade 1. These indicated that preschool actually did help children from lower socioeconomic levels, because the benefits of preschool education were observed in low and middle-low socioeconomic levels.

It is possible that the quality of the teaching and learning process observed in preprimary grades enabled children from lower socioeconomic sectors to develop their reading readiness skills.

Final Considerations

Two questions were raised at the beginning of this study: does preschool education have an effect upon grade 1 learning outcomes and are there any differences in the schools that cater to children from different socioeconomic levels that could account for the learning differences observed?

Some Answers

On the basis of the information collected and analyzed we propose the following answers.

Preschool education was related to the level of reading readiness at the *beginning of grade 1*. More important, the benefits of preschool education were detected only in children from the lower socioeconomic strata. This suggests that preschool education does not contribute to discrimination but rather *tends* to even out the differences with which children from different SEL enter into grade 1.

However, preschool education did not eliminate the differences in reading readiness between children from different socioeconomic backgrounds. With or without preschool education, children from lower socioeconomic levels presented lower levels of reading readiness than children from middle-low or middle-middle groups.

The relationship between learning outcomes *at the end of grade 1* (evaluated independently of the teacher) and preschool education was not clearly established. With the exception of reading achievement in middle-low SEL schools, no differential effects of preschool education were detected in schools of different socioeconomic levels.

Differences were detected only when children with and without preschool education were compared without distinction of the socioeconomic level of the school or family. Here, children with preschool education had higher levels of reading and math achievement at the end of grade 1 than children without preprimary education.

No relationship was detected between learning outcomes at the end of grade 1 according to the evaluation criteria of the teacher. No differences were detected in grades assigned to children with or without preschool education in arithmetic and reading and writing.

The relationship between promotion from grade 1 to grade 2 could not be established, because promotion was automatic.

Grades at the end of grade 1 are related to academic and nonacademic factors. Among the nonacademic factors, the personal appearance of the child and his or her social behaviour in the classroom play an important role.

Do these results suggest that preschool has failed in its objective of preparing the child for better learning in grade 1? No, the results suggest that the main reason should be sought in the classroom process in grade 1.

The process in preschool classes of all socioeconomic levels reflected a more positive affec-

tive climate, and children were given more opportunities to learn in an active, elaborative way, than in grade 1 classrooms.

One of the main trends observed in grade 1 outcomes was their relationship with the socioeconomic level of the primary school. These trends were present even after evaluating the effect of several family variables (father's and mother's education and occupation) and personal factors of the child (age, malnutrition). The question one needs to ask then is: how do schools of different socioeconomic levels differ?

Our results suggest that the quality of the process in the classroom may have a strong influence. It was found that teachers did not differ significantly from each other in terms of academic background or working experience. The quality of the school facilities was also quite similar at the different socioeconomic levels; in all cases, the minimum facilities were available.

Interesting trends were discovered in the quality of the process in the classroom. In low SEL schools, students were mostly asked to repeat what the teacher had presented. In middle-middle SEL schools children also had the opportunity to learn actively, through elaboration. In the former, the teacher applied severe disciplinary measures, such as threats, ridiculing the child, and physical punishment. In the latter no special tendencies were observed. In low SEL schools the teacher proposed and initiated activities more frequently, whereas in middle-middle SEL schools the students initiated activities more frequently.

The general climate observed in grade 1 in middle-middle SEL schools was similar to that observed in low SEL preschools.

What do the results of this study suggest with regard to plans to create more preschools to improve learning outcomes in primary schools?

In the first place, the answer to this question needs to take into consideration that preschools fulfill various roles in the community. Preparation for primary school is only one of its objectives. In the second place, one needs to compare the effectiveness of the traditional type of preschools, which was analyzed in this study, with the alternative programs being developed. For example, in Chile, there exist several nonformal preschool programs that work with the family. One of them is the "Proyecto Padres e Hijos" (Parents and Children Project) in rural areas of Chile, which has been evaluated recently. The conclusions of this and other similar studies should be considered when making decisions about the services that best satisfy the needs of the community and the children.

In any case, if existing preschool services are increased to improve learning outcomes in grade 1, this must go hand in hand with changes in primary education.

In this respect we are aware that the school system is, and has been, reluctant to change. However, it is possible to work with school teachers, because most of them have positive intentions that are somehow not evident in their work. Some of the results obtained in this study can be used to create an awareness among the teachers about the type of relationship they establish with children in the classroom and how this can influence their learning.

New Questions

Preschool outcomes: We analyzed the effect of preschool upon learning skills developed in the child. But, what effect does preschool have upon other aspects of the child's development?

A study was conducted with a subsample of six grade 1 classrooms to analyze children's social behaviour in the classroom at the beginning of grade 1. No differences were detected between children with and without preschool education. We do not know whether these differences actually do not exist or whether it was not possible to detect them during the observation periods.

It would be interesting to analyze this aspect more extensively, because in the same study it was found that the social behaviour of the child in the classroom was related to the grades the teachers assigned and to the level of achievement in reading, writing, and arithmetic.

How does preschool affect the child's emotional development? This question is especially important for children from low socioeconomic sectors who frequently are exposed to difficult situations in the home, produced by the economic and social problems their families are facing.

Differences between schools of different SEL: Observations carried out in grade 1 classrooms provided important clues with respect to the kind of differences that occur in schools of different SEL.

Do children learn better through elaboration, or by means of repetition? In this study, the highest scores in reading and arithmetic were found in classrooms of schools of middle-middle SEL where high frequencies of elaborative activities were observed.

No special tendencies were discovered in schools of low SEL. Elaboration was very infrequent in all of the observed classrooms, and we

found that scores in these schools were lower than those observed in middle-middle SEL schools. However, we are not in a position to establish that these learning outcomes are specifically related to a lack of elaborative activities.

What relationship exists between the affective teacher-child relationship and the children's level of achievement?

Some trends became apparent after analyzing learning outcomes and the relative frequency with which teachers were observed to ridicule the child. High frequencies were related to lower outcomes. However, because we worked with a limited number of classrooms, we cannot establish a clear and definite relationship between the two factors.

How can we explain the differences in the classrooms in schools of different SEL?

We believe that a more detailed analysis of teacher training can provide some interesting clues. We were not able to detect any trends on the basis of the collected information, but we suspect that a more thorough study could provide some interesting answers.

Another factor that should be analyzed is the socioeconomic background of the teachers, because it is possible that the teachers exhibit the particular values of their social group in their relationship with the students and in the attitudes they exhibit in the classroom.

What accounts for the differences in classroom processes between preschool and grade 1?

We found that grade 1 teachers are more oriented toward efficiency than preschool teachers. Grade 1 teachers feel that even though automatic promotion is in effect children should be able to read and write by the end of grade 1. This means that the teachers tend to have the goals of the program in mind rather than the particular learning needs of the children.

Learning outcomes in middle-low SEL schools: It was found that these were the only schools where the effects of preschool were still present at the end of grade 1, both in reading and in arithmetic. It was also found that the process in the classrooms in these schools did not present any particular differential trend. This suggests that perhaps one needs to analyze in greater detail some aspects of the child's family. In some of these schools the teachers mentioned that the mothers of their pupils requested frequent interviews with the teacher, wanting to be informed about the progress of their child. They also reported that the mothers applied severe disciplinary measures in the home. We believe that these aspects, as well as the parents' expectations regarding the educational and occupational future of their child may provide more insight for understanding the observed results.

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Relationship Between Preschool Education and First Grade in Argentina

Pilar Pozner[1]

Introduction

The aim of this paper is to analyze the impact of preschool education on low-income children, analyze the scope of preschool education influence, detect other possible areas of responsibility of the educational system that determine the academic success of low-income children, and draw up plans of action in keeping with the realities of the poorer social sectors.

This paper is based on the "Initial Study on Preschool Primary Education" conducted in Argentina between 1979 and 1980.[2] The study focused on urban areas in Buenos Aires and rural areas in central Argentina (La Pampa Province). It followed a group of children from preschool through the end of the first grade as a means of understanding the effects of preschool education on a child's subsequent experience in first grade.

The study was based on a fundamental hypothesis as follows: *dependent variable*, children's performance at the end of the first grade; *intervening variable*, type of preschool and first grade the child has attended; *independent variable*, socioeconomic level of the family.

A *quasiexperimental* design was adopted for the study. Thus, a group of children were studied in the first grade who had attended preschool (experimental group) and a group of first graders who had not attended preschool (control group).

Two measurements were made of the two groups: before the children in both groups entered first grade and at the end of first grade. Several variables regarding the family and parental and teacher opinion were incorporated into the experiment.

Five hundred and fifteen (515) children (from 20 schools) representing both subpopulations made up the total study population during stage 1 (preschool).

In 1980, at the beginning of stage 2 (first grade), the total study population increased to 739 children; the sample may be broken down as follows: 31% of the children were from the group observed in preschool and first grade and 27% were from the control group. The other 42% were children who had not been observed.

The 20 preschools involved in stage 1 in 1979 rose to 29 schools (primary schools) during stage 2 (first grade), 1980. The sample was designed to include different socioeconomic groups.

This paper is limited to the major study findings and conclusions, particularly those pertaining to lower-income groups, which will be referred to here as families and children from low socioeconomic levels.

Framework

The information presented in this paper is set within a framework based on two factors. The first is structural and concerns the unjust situations created within the Argentine educational system itself (Centro de Investigaciones Educativas 1979). The second is theoretical and involves a critical examination of certain educational conceptions.

Education and Social Justice in Argentina

The structure of the Argentine educational system discriminates against most people: The discriminatory nature of Argentine education is manifested in both qualitative and quantitative

[1]Centro de Investigaciones Educativas (CIE), Zabala 2677, 1426 Buenos Aires, Argentina.

[2]This study was carried out jointly by Chile, Bolivia, Colombia, and Argentina. Centro de Investigaciones Educativas (CIE), Centro Internacional de Investigaciones para el Desarrollo (CIID).

terms: (a) the limited ability to keep students in school varies depending on social class; more specifically, an intrinsic feature of the system appears to be the rejection of certain groups, such as people from rural and marginal urban areas; (b) the different educational options in Argentina are a source of injustice as they are of widely varying quality with respect to infrastructure, physical conditions, and educational content, i.e., public versus private schools; and (c) the fact that different types of education are available to the various social sectors obliges them to pass through specific educational channels, and this affects their opportunities for being integrated into the productive apparatus.

The structure of the Argentine educational system is not based on reality: Injustice translates into a failure to recognize the true nature of the educational experience. Some causes of this situation are: (a) the inconsistency between the nature of the education provided and the country's real needs. This problem becomes more serious when the development and provision of education as an instrument of knowledge are inadequate or when its uselessness as a tool limits the opportunities and outlooks of those making the transition from the educational to the production system; and (b) the failure to recognize the educational role played by other agents of society, particularly the family.

Injustice also translates into a failure to recognize the students' reality as evidenced by: (a) ignorance of the students' capacities and limitations at each age level, i.e., exaggerated curriculum requirements; (b) ignorance of the social, economic and cultural conditions and of the lifestyles that accompany the children as they enter school; (c) the existence of only one educational option as a means of access to an instrument of knowledge for children from different social sectors; (d) the continual conflict between what teachers portray to be "model successful students" — exclusively children from middle social sectors, and the true situation of students from other social sectors; and (e) the attribution of academic success to sound methodologies, and of failures to the students; this attitude makes it impossible to call the effectiveness of educational methods into question.

Injustice is translated into an unawareness of teachers' needs and interests: (a) at the job level, this is apparent in existing work conditions and salaries, and (b) at the teacher training level, this can be seen in the role model imposed by the educational system that ignores training and upgrading needs and offers obsolete programs unsuited to preparing teachers for their jobs. For example, no teacher training program prepares teachers to work with and in groups even though on a daily basis the classroom experience forces teachers to function as members of groups.

Compensatory Education

Many recent theories affirm the decisive influence of early development on the child's later life and cite the different factors that may determine this development.

Various studies and research projects have been undertaken on the basis of these theories, taking into account the effects of such variables as early environmental, emotional, nutritional, and educational stimuli on overall child development (Evelto 1973; Palto 1973; Wilcox 1971; Witter 1975). The concept of "cultural deprivation" appeared in the 70s as a corollary to these theories and gave rise to the idea of "compensatory education."

At that time, cultural deprivation represented a qualitative leap forward in the sense that it explicitly recognized a society's ethnic and social minorities. This paper will not discuss its theoretical assumptions and propositions, but rather will focus on the educational lines of action that resulted, and especially on preschool education policies.

Compensatory education helped define new expectations regarding the role played by nursery schools, which were viewed as a democratizing force that would transcend the social and cultural differences of the children attending them.

Compensatory education was thought to provide the formula that would give low-income children who did not do well at school that "something" they lacked that would enable them to "perform" like other children. However, in practice it consolidated the differences between marginal or "deprived" children and those with a "true" culture.

Low-income children do not perform well at school because they have sociocultural "handicaps" or socially generated deficiencies. In this conception, the idea of "handicaps" is used to explain the different experiences children have at school as a product of their social background. This theory places particular emphasis on "intellectual and linguistic handicaps" and emotional problems (Witter 1975). Adherents of this idea see these children as suffering from "deprivations and shortcomings" that must be "compensated for" with the appropriate pedagogical methods. They consider that social background and language and intellectual development are closely linked.

However, this notion of "handicap" is based on a comparison and evaluation of the academic performance of children from different socioeconomic sectors in an educational system where success and ability are measured solely in terms of a child's ability to respond to the organization, transmission, and evaluation of knowledge imposed by the system itself; children who fall outside of these parameters are labeled deficient, and like a self-fulfilling prophecy, they repeat grades and drop out of school.

"Compensation" is the need to "remedy" something that does not come up to specifications; in this case, it is the children, and, therefore, the children's families, who are considered lacking and deficient. Their families are not like "other" families; they do not share the values expounded at school and to be successful at school, the educational system requires that a child be sensitive to and identify with his or her culture both in terms of cultural content and in modes of transmission.

To criticize the "handicap" concept is not to deny that some social sectors do experience difficulty learning the instrumental subjects. Nevertheless, it is one thing to introduce these social sectors and their children to the world of required universal knowledge through their own experiences and knowledge of life and quite another to ask them to shed their sense of cultural identity at the schoolhouse gate.

It is apparent that the compensatory education concept shifts or covers up the educational system's responsibility; thus, the illusion that nursery schools can act as "levelling agents" of social differences that provide early education opportunities and adequate preparation for entrance into compulsory primary schools is uncertain.

Rather, it may be argued that this illusion masks structural realities that the educational system not only makes no attempt to change but in fact tends to perpetuate.

We must work toward overcoming social differences, but we must begin this work from a basic and irreplaceable premise: the social importance of poor and marginal sectors must be recognized through a true recognition of their own valid cultural frames of reference.

Some Characteristics of the Argentine Educational System

Preschool Education

This level accepts children between the ages of 2 and 5. In Argentina, preschool education is not compulsory. Both preschool and primary education are controlled by the Undersecretary of the Ministry of Education in each province, except in the Capital District, where the Municipality of the City of Buenos Aires supervises this level of education. The National Superintendancy of Private Education has jurisdiction over private nursery schools.

The only existing curriculum is that of the Province of Buenos Aires, which is used virtually throughout the country in both rural and urban areas.

There are two kinds of nursery schools: *those attached to primary schools* that operate in the same building as these schools, have the same administrative personnel and are on one three-and-one-half hour schedule and *independent nursery schools* that provide preschool education only and have their own administrative structure and building; these independent schools function all day, that is, for the equivalent of two half-day sessions.

Nursery schools represent only 2.2% of the total number of public schools and are the only government schools that accept 3-year-olds.

Coverage: Estimates indicate that only 15% of preschool-age children attend nursery school. One-third of all nursery schools are located in the Federal Capital and Greater Buenos Aires.

Coverage by sector: The required age to enter preschool is different for public and private nursery schools. Children usually begin public school at independent nurseries in Buenos Aires at the age of 5, occasionally at the age of 4, and very rarely at the age of 3. Only private nursery schools admit children from the time they are 2 years old.

Coverage by socioeconomic level: There are no national statistics on the socioeconomic distribution of preschool coverage; however, in the 20 school districts in Buenos Aires in terms of income and parents' occupation, the districts with low-income populations have the smallest percentage of incorporated nursery schools (Municipality of the City of Buenos Aires 1968). The two school districts covering one of the most extensive marginal urban zones in Buenos Aires have the lowest percentages of incorporated nursery schools and no independent public nursery school. It is also interesting to note that the density of the school-age population in these districts is easily much greater than in other dis-

tricts but does not have the corresponding number of schools to cover the population.[3]

Coverage in urban and rural zones: Nursery school coverage extends to only 15% of preschool-age children. Most of this 15% is concentrated in the Federal Capital and Greater Buenos Aires, making coverage in the rest of the country even more limited. The situation becomes more serious depending on the socioeconomic conditions in each province. The fact that preschool education is not compulsory seems to create unequal opportunities even before primary school is begun.

Primary School

As mentioned earlier, the institutional structure of both preschools and primary schools is very similar. Primary education is comprised of seven grades divided into three levels. In the first grade, the child learns how to read, write, and do sums.

Coverage: Traditional indicators such as the system's performance or effectiveness will not be used to analyze primary coverage; instead, those indicators that offer a clearer picture of coverage will be used.

The Argentinian educational system has a pyramidal structure that incorporates 90% of primary school-age children into its base. The system also has exceedingly high dropout rates. Virtually one in two children finishes primary school.

The socioeconomic situation of the region or province affects the dropout rate because the very highest rates are found in the rural areas of the poorest provinces. In over half of the country's rural areas, the dropout rate fluctuates between 76 and 100%. The possibilities for a rural child to finish primary school are slight. Also, in absolute terms, there are no major differences in population distribution between rural and urban areas; 55% of the population lives in urban areas.

Another feature of the primary school dropout rate is that it varies according to grade. In the first grade, which seems to be a major stumbling block, 35% of the children drop out, whereas almost all of the children in the last year of primary school complete that year of study.

The fundamental problem is the high rates of repeating that hold 23% of the children back. Available information shows that some children have taken first grade more than three times.

[3] See maps in the report: "Initial Study on Pre-School Primary Education."

Preschool Attendance

It is often said that children who attend preschool are better prepared for primary school, perform better there, and have a greater likelihood of passing. This section will present the empirical evidence gathered during the research project.

Preschool Attendance Affects Entrance into Primary School

To analyze the impact of preschool education on entrance two aspects, age and preparation, were taken into consideration.

Age: The first difference found among these children concerned age. It can be stated that: (a) Entrance age is related to socioeconomic level. The primary school entrance age of low-income children in urban areas is later in 47% of the cases than the stipulated age; for low-income children in rural areas, it is later in 45% of the cases. This tendency was not observed for other socioeconomic levels. (b) Entrance age is linked to preschool attendance. In 80% of first-grade classrooms, the average age of children who had attended preschool was lower than that of children who had not gone to preschool (6 years 5 months as opposed to 7 years). However, low-income children who did attend preschool were usually older than the regulation age.

Preparation: To evaluate the children's levels of preparation, three tests were chosen: L. Bender's visuomotor maturity test, the draw-a-man test (both of these tests have been evaluated by Koppitz scales) and the ABC test by L. Filho. The results of each one of these tests will be analyzed separately.

(a) The results of the L. Bender test show that preschool education does influence visuomotor ability and help raise low scores on this test and improve high ones. This is possibly owing to the fact that a large part of preschool activities stress motor and visual skills.

The results also indicate differences according to socioeconomic level. In both urban and rural areas, the lower the socioeconomic level, the lower the scores obtained. This might possibly be explained by the different stimuli each socioeconomic level provides. Preschool attendance improves the test scores of children from low-income sectors. This tendency can be observed to an even greater extent in rural areas.

It would seem then that preschool attendance considerably promotes visuomotor develop-

Table 1. Reading and writing test.

	Scores (%)				
	Very good	Good	Fair	Unsatisfactory	Total
Children with preschool	67.30 (70)[a]	9.62 (10)	5.76 (6)	17.32 (18)	104
Children with no preschool	31.25 (15)	12.50 (6)	10.40 (5)	45.85 (22)	48

[a]Values within parentheses are the total number of children.

ment; especially among children from social environments where objects such as pencils, scissors, and books are not an integral part of the child's daily life. The phenomenon is so pronounced that of all the children who went to preschools, 35% of the rural children obtained the highest scores, compared with only 11% of the urban children (Table 1).

(b) Attending preschool does not basically affect the results children obtained on the draw-a-man test; preschool attendance does not influence the structure of a small child's drawing, which is determined by the child's age and level of maturity (Koppitz 1979).

We observed no differences in the results obtained by children from different socioeconomic groups in urban areas. The results were, however, different for rural, essentially low-income children who obtained the lowest scores on this test. Among low-income groups, preschool education increases good scores and reduces low ones.

Thus, preschool education, at least of low-income urban children, because the lack of information on rural children makes it impossible to reach any conclusions, would make it possible to raise the level of maturity measured by this test.

(c) The results of the ABC test helped to formulate the following conclusions: first, that preschool education does not affect the skill evaluated in this test, and second, that socioeconomic factors greatly influenced the results of this test.

These results lead us to wonder whether the test objective of grouping first-grade children by level of maturity would be invalid because it would ultimately group children by socioeconomic level; the test results also indicated the need to analyze the validity and evaluation guidelines of the test (Ferreiro and Teberosky 1979).

Impact of Preschool Education on Grade One Performance

The decision was made to evaluate the field of language because the pilot stage of the study had shown that a large percentage of children finished first grade without even knowing how to write their own names. One hundred and fifty-two children from different socioeconomic sectors attending several selected schools were evaluated.[3]

In developing this test, the heterogeneous nature of the group of children and the reading and writing learning processes used in each classroom were taken into consideration so that the items included in the test would not discriminate against any children. We tried to integrate the evaluation of what the children had learned at school with what we felt a child could and should learn at this stage of development. These considerations were taken into account both when developing each item of the test and when establishing its evaluation guidelines.

On the basis of the results of the reading and writing test, preschool education is a decisive factor in reading and writing performance; however, it is interesting to note that 100% of the children from upper-income sectors and almost all of the children from middle-income urban sectors passed the test with high scores. Most of these children (98%) had also attended nursery school.

Low-income children and even children from middle-income rural families did not do so well on this test: 64% of the rural children and 50% of the urban children did not pass the test. Fifteen percent of these rural children and 26% of these urban children could not even write their names at the end of the first grade.

When teachers were consulted about this and about the results they obtained using current methods for teaching reading and writing, they made the following comments: "I use the word stimulation method that gives good results with the good group; let's talk about the good group because the other one . . ." "Word stimulation gives excellent results" (the response of a teacher

[3]As a result of difficulties that arose with the Municipality of the City of Buenos Aires, it was not possible to evaluate the entire population.

who had nine children in her class who were either repeating or had dropped out). "Word stimulation has served me well up until now" (the number of children repeating and the number of dropouts in this teacher's class came to 12 out of a total of 35 students).

It seems that the present role teachers assume makes it almost impossible for them to take a critical view of teaching methodologies. Another problem arose when the teachers were asked how they thought a child learned to read and write. Their answers: "By maturing." "Any method is good." "The best suited method." "Gradually." "To learn how to write, the child repeats what the teacher says and does. I say 'ma,' he says 'ma.' He learns by hearing and seeing." "To teach a child to read, I give him the sound first, then the written form. The child imitates sounds and symbols." "By using word stimulation." "To learn how to write, the child first expresses himself through drawings; if you tell him to draw a house and he just draws some sort of scribble, the child is incapable; then he learns by copying things like the date, and lastly, by actually writing."

These answers indicate confusion and ignorance about the process the child goes through in learning to understand the value and function of writing. These teachers cannot view the process from the student's perspective. It is also noted that their confusion prevents them from distinguishing between the learning process and methodologies that can be used to facilitate learning. These teachers' reactions must be understood within the context of the stereotyped reading and writing methods that have been traditionally used in education. The arguments analytical, synthetical and both have thus far produced no qualitative solutions that take the lowest-income sectors into account.

Returning to the subject of the children in the study, the influence of preschool education on low-income children and their process of learning to read and write, is limited to children from urban areas, whose level of reading and writing improved; thus, six of every 10 children who attended preschool passed, whereas that figure drops to four of every 10 for children who did not receive preschool education.

Low-income rural children who went to preschools obtained much the same results as urban children who did not attend nursery school. Their scores do not indicate that preschool education enabled them to increase their levels of reading and writing.

If current reading and writing teaching methodology is not satisfactory for urban children (49% of them did not pass the test), it is even less satisfactory for rural children because more than 50% of them did not pass the test.

Preschool Education Increases the Likelihood of Passing First Grade and Reduces the Child's Chances of Having to Repeat

From the results shown in Table 2, apparently preschool education greatly affects the child's ability to pass the first grade.

In checking whether the distribution of the entire population in this study is proportionate, it is noted that it is the upper- and middle-income children who benefit most (almost all pass), whereas only 47% of the rural children and 70% of the low-income urban children pass. Four out of every five urban children with preschool education and three out of every five urban children without preschool education pass.

In rural areas, two out of every four children who attended preschool and one out of every four children who did not go to preschool passed. Thus, preschool attendance helps children from low socioeconomic levels pass the first grade. However, several questions do arise in this regard. For example, did all of the children who passed acquire the instrumental knowledge, in this case reading and writing skills, the school wished them to have?

All of the children who failed to pass first grade performed poorly on the reading and writing test; what was surprising was that a number of urban and rural children who did pass first grade did not achieve satisfactory scores on the test. They

Table 2. Passing the first grade (%) urban and rural areas.

	Passed	Failed	Dropped out	Changed school
Urban children				
With preschool	84.88	9.32	3.73	2.07
With no preschool	62.94	26.46	10.00	0.60
Rural children				
With preschool	69.64	25.00	5.36	
With no preschool	43.33	23.33	26.67	6.67

represent 26% of each study population and range from children who did not even receive the lowest passing scores to others who experienced difficulty in reading comprehension, writing dictations, and matching printed words to written words.

Thus, there are different *levels of passing* and the children who passed first grade without the necessary skills and knowledge are *potential repeaters* in the next grade. It is also worth pointing out that most of these potential repeaters (90%) come from the lower socioeconomic sectors.

From the study, the following picture of first grade classes emerged: there were classes where all the children passed; none had to repeat the first grade and all obtained satisfactory scores on the test. An example of such a classroom would be Classroom 13, which happened to have children from the upper classes. Then we find classes where the percentage of children who had to repeat reached 38%; an equal number of potential repeaters were identified in this type of classroom. Thus, 76% of the children were not able to acquire the necessary tools of knowledge. An example of such a class where most of the children were from low-income families is Classroom 17.

Preschool does then seem to influence a child's educational future, but this influence seems to be very closely linked to the socioeconomic level of the child's family. Preparation, performance, and passing are affected by whether or not the child attends preschool and by social class.

Low-income children who went to nursery school entered primary school at an age closer to the regulation age than did low-income children without any preschool education.

Preparation received at preschool is effective for upper- and middle-income children, although the levels of effectiveness are not the same for low-income children, attending preschool seems to better prepare these children for entrance into the first grade.

However, this advantage rapidly fades in view of these children's reading and writing ability at the end of the first grade. This is all the more true in rural areas.

Preschool also seems to affect passing and the different levels of passing, that is to say the different criteria used to evaluate whether the child should pass to second grade or not.

The Role of Educational Institutions

The preceding section dealt with the academic failures of low-income children and compared their performance with the achievement of children from other sectors. This section refers to the role of educational institutions in this regard.

Preschool

Preschool classrooms were observed for teaching methods and institutional aspects. Specifically, the guidelines used in and the dynamics of the teaching process and interpersonal relations were observed. At the institutional level such factors as the nursery school's location and relation to the school, the professional relations between teachers, and the relationship between teachers and families were observed. A qualitative index was established on the basis of the behaviour of these variables and was used to identify contrasting situations; type "A" classrooms and type "C" classrooms.

In *type "A" nursery schools*, the class is based on the active participation of the children and on their responses. Activities are structured around searching, observing, and investigating methods; teaching centres on discovery and creativity; class organization focuses on the child's needs and on learning; and children are entirely or almost entirely free to choose when to do things, which resources to use and which activities to perform. Teachers in this type of classroom tend to differentiate between constructive and systematic errors and use constructive errors as a source of feedback. both teachers and students actively participate in disciplinary questions, and students help establish discipline guidelines and control measures. Discipline is permissive, which means that it can be adapted to individuals and situations and can be called into question; this type of discipline does not demand absolute silence and allows for whispering. The content of the teaching-learning experience is based on the child's expressive abilities: manual arts, body movement, and linguistic skills. The atmosphere in the classroom, that is of activities, work, and teacher-student relations, is relaxed and pleasant. Work in groups is the prevailing form of study; teachers meet in discussion and study groups and for professional upgrading; teachers are more integrated into the rest of the school and participate more actively; and parents are involved in the school through activities and homework they must do with their children and sessions are held just for them.

In *type "C" nursery schools*, the class is based on the subject content and on the transmission of knowledge and skills. Teachers decide what is to be taught; children's responses are used to measure what they have learned. Teaching centres on

knowledge and its transmission, that is, on teaching. Children have little or no freedom in terms of time, resources and activities. The teacher's attitude toward mistakes is usually one of rejection because he or she does not view errors as an integral part of the teaching-learning process; this rejection is manifested in mocking negative behaviour. Discipline is viewed as an essential part of the teaching process (guidelines and control measures), is imposed by the teacher, and is strict and inflexible no matter what the situation. This type of discipline usually requires absolute silence so that the classroom can "work." The atmosphere is tense and frustrating; work in groups is strictly a formality generally determined by the spatial arrangement alone. The only relationship between the principal and teachers is bureaucratic involving circulars, general guidelines on discipline, and curriculum; incorporated nursery schools of this type are isolated from the rest of the school as a rule as far as teacher-teacher and student-student relations are concerned; and parent participation is limited to attending certain school activities and helping out with school maintenance but never involves educational work per se.

The two types of schools mentioned created the need to establish an intermediate type (type "B") that has some of the features of type "A" but more of the features of type "C."

First Grade

First grade observations concentrated on the teaching of reading and writing, because the pilot study had shown that this was the area in which low-income children had the greatest difficulty. Our findings enabled us to set up the following types of first grades.

In *type "A" first grades*, entrance to the first grade requires that children be of a certain age and that they take psychological and physical examinations that will enable the school to forecast and evaluate their main features and possibilities. In writing activities, *copying* is merely a means of finding meanings and expressing ideas; learning confirmation involves the search for new *meaning and ideas* and the affirmation of what has already been learned. In reading activities, *reading and understanding meaning* are one and the same. There are never more than 27 children in each classroom. Both teachers and students actively participate in disciplinary questions, and students help establish discipline guidelines and control measures. Discipline is permissive, which means that it can be adapted to individuals and situations and can be called into question. It does not require absolute silence and allows for whispering; the various corner spaces of the classroom are used; communication between children is fluid, because the classroom is arranged in a circle, an oval, or in groups of tables; children are usually allowed to choose where they will sit except in cases where the teacher feels that a certain type of activity or a specific child requires a different type of arrangement; teachers do not stand at the head of the classroom, because the arrangement of the desks in circles or clusters makes it impossible to speak of a "front" part of the classroom.

In *type "C" first grades*, the only entrance requirement is age; writing activities are based on *copying* a model; copying is reinforced with mechanical repetitive exercises; reading activities are associated with *deciphering and repetition* exercises; children are taught first to *read mechanically* and then to read for meaning; progress made in *deciphering*, and *copying* is viewed as a step made toward learning how to read and write. The number of children per class ranges from 20 to 34. Teachers impose discipline, which can be extremely severe in some classes and more relaxed in others. Establishing the right atmosphere for a specific activity often takes more than 30 minutes of a 1-hour period. Complete silence in the classroom is essential. Discipline is a tool used in the teaching process. The classroom is arranged in rows of desks that are often bolted to the floor. Thus, there is little communication between children and a one-to-one relationship with the teacher; group work usually involves competitive activities in which the group element is merely a formality or backdrop; teachers stand at the head of the rows in front of the blackboard; teachers assign children their seats; if children specifically request it, their seats can be changed; children are seated in the back or at the front of the classroom and even at the teacher's desk as a means of punishment; and isolated students were observed, they were seated in the outside rather than the centre rows in the classroom.

Low-income children *never* have the opportunity to attend type A, open, or "children-oriented" nursery schools; 80% of them go to type C schools and the rest attend type B preschools.

Not only do upper-income children go to type A preschools that focus on their needs, but they go on to type A primary schools that are much the same as the preschools and greatly benefit from the continuity in the type of education received.

Middle- and low-income children become more alike in passing from preschools to primary schools because there are no type B schools at the primary level.

This process, which is referred to as downward leveling, means that 100% of low-income children attend type C, closed, or "nonchildren-oriented" primary schools.

Low-Income Children and Their Environment

In this study, families were classified according to socioeconomic level determined by the occupation and level of schooling of the head of household and the family unit's income level.[5] This section will delve more deeply into the lives of low-income children

We were interested not only in looking at the physical living conditions, but in identifying the stimuli in the cultural and social environment outside the home to which these children are exposed as aspects directly related to the children's situation and their ability to learn and socialize.

Two groups of variables were used to examine these two aspects: (a) the type and characteristics of housing and housing density and (b) mother's education, child's access to mass media, and his or her contact with a broader social environment.

The study also sought to determine the parents' ideas and expectations regarding preschool. The following variables were taken into account for this purpose: reasons they did or did not send their children to nursery school, the importance and function of nursery school, and the importance of parent participation in the school.

A vast majority of the children who did not attend nursery school were from low-income groups; all upper-income children and almost all middle-income children had gone to nursery school; furthermore, most of the children from these groups attended preschools for 2 or 3 years.[6]

Low-Income Families Who Sent Their Children to Preschools

The parents from this socioeconomic level who sent their children to preschool ranged from people who had no formal education to people who had completed secondary school.

The urban population generally lives in boarding houses or hotels in premarginal working class areas. Most of the urban and rural populations live in unstable housing conditions with no plumbing and two to three people per room.

Fifty-seven percent of the rural mothers had either never attended primary school or had not finished it. Half of the urban mothers had completed primary school, and 20% had no formal education or had not finished primary school.

Children's access to the mass media (magazines, books, television, and radio) is particularly deficient among rural children, because 34% have no access to any form of mass communication. Most urban children from this social group do not have access to all forms of the mass media but do have access to some of them.

Sixteen percent of the rural children and 10% of the urban children have no contact with a diversified social environment through recreational clubs, vacations away from home, or contact with their friends.

As for the families' ideas and expectations about preschool education, more than half of the parents said that they sent their children to nursery school so that they would be better prepared for primary school. They see preschool as a place where children learn to socialize and receive some training. Most of these families see the parents' role in the child's education as involving such things as knowing how the child is doing at school and going to see the school itself.

Low-Income Families Who Did Not Send Their Children to Preschools

The reasons this group gave for not sending their children to preschool were: a lack of available places at the schools (44% in rural areas and 23% in urban ones), health, trips, and moving (22% in rural areas and 40% in urban ones); one group of families answered that they were not interested in sending their children to preschools (22% in rural areas and 18% in urban areas).

To understand fully the differences between those urban families from low-income groups who did, and those who did not, send their children to preschools it should be noted that the latter group is made up of a very specific segment

[5] For more details see Chapter II, "Initial Study on Pre-School Primary Education," by Pilar Pozner and Elba Luna.

[6] The number of children in the study population who attended preschools grew with the addition of children who had not attended preschools but were also entering primary school. It was extremely difficult to detect this population of children in the Federal Capital; most of them were found among the marginal populations of the city. In rural areas, this group entered the same classrooms that received the children making up the study population.

of the marginal urban population that lives in *villas de emergencia* (shantytowns). Rural families that did not send their children to preschool lived far away from more populated areas.

This specific aspect can be seen in both housing and room density. In this sector of people, the study found a room density of from three people to, in some extreme cases, seven people per room. More mothers from this social sector had not finished primary school. Four out of every 10 rural children have no access to forms of the mass media. In urban areas, most children only have access to a few forms of mass communication.

Outside of school, the only other social environment available to the children is the company of other children their age, and most have no access to recreational clubs or vacations. Four out of every 10 urban children and one out of every three rural children have no access to any of these outlets.

Most rural families said they did not know the function of preschools; the other families stated that their function was to prepare children to enter primary school. This opinion was shared by urban families. In answer to the question of whether parent participation in the school was important, these parents, like the other low-income parents, thought that this participation meant knowing how the child was doing at school and knowing about the school itself.

All of the information presented so far, as well as that pertaining to other socioeconomic levels,[1] indicates that low-income families and their children live in circumstances that are markedly different from other social sectors. The result is that low-income children enter school without a series of stimuli and social and cultural experiences similar to those they will find at school and need to learn if they are to benefit from the only educational option open to them.

Conclusions and Recommendations Regarding Low-Income Groups

The most general statement that can be made is that no indication was found that preschool education negatively affects low-income children.

However, the positive aspects of this type of education for these children are more relative than they are for children from other socioeconomic sectors. Although there were differences between the low-income children who went to preschool and those who did not, these differences were not as marked as those between low-income children and children from other socioeconomic sectors.

With regard to these general claims, it may be said that:

- As a rule, low-income children enter primary school when they are over the regulation entrance age; however, those children who attend preschool enter primary school when they are closer to the regulation age.
- Tests designed to evaluate preparation verify that there are differences between children from these sectors who went to preschool and those who did not. The Bender test results clearly indicate this.
- The results of the reading and writing test are more closely related to the children's different socioeconomic levels than they are to whether a child attended preschool or not. Many low-income children who went to preschools did not pass this test.
- A first look at the data on passing the first grade seems to indicate that preschool education does have an effect in this regard. The passing of first grade assumes that the child has acquired certain skills and knowledge. However, the reading and writing test scores of children who passed the first grade make it necessary to talk about different levels of passing; many children, referred to as potential repeaters, had not acquired the minimum amount of knowledge they need; all of these potential repeaters are found among low-income children. Thus it seems that preschool attendance does not guarantee that low-income children will pass the first grade.

Our attention is drawn to one point: that some schools provide a better learning experience than others.

This conclusion is based on the following information:

- The children who attended type A preschools and first grades obtained the highest scores on the reading and writing test. There were no repeaters or potential repeaters in this group. Such was not the case for the low-income children as no type A schools (preschool or primary) are accessible to these children.
- The analysis of the distribution of the type of preschools and first grades according to institutional and educational features showed that almost all low-income children attend type C or "nonchildren oriented" schools.
- These children obtained the lowest scores on the tests and, therefore, have a limited chance of acquiring reading and writing skills.

[1] For more details, see Chapter II, "Initial Study on Pre-School Primary Education," by Pilar Pozner and Elba Luna.

• There is an alarmingly high percentage of repeaters and potential repeaters in type C classrooms (in some cases as high as 76%).

Thus, it is necessary to restate one of the basic hypotheses of this study: the learning process is enhanced not just by a child's attending preschool but, more specifically, by attending a certain type of preschool and first-grade school.

The question arises as to what would have happened if the low-income children had gone to type A schools. The answer, based on our reference framework, seems to be that there would have been fewer differences between low-income children and children from other socioeconomic sectors but that these differences, although reduced, would not have disappeared. This is due to the fact that the underlying symbolic content of the educational system is at least as important as the characteristics of the schools themselves in producing these differences.

Although this study did not go into an in-depth analysis of the symbolic content of the present educational system, certain observations prompt several comments on this subject:

• The ability of low-income children to learn and acquire knowledge tools is impaired not only by the children's own limitations, as the schools claim, but also by the contradictions between their social origins and the educational system itself.

• Children from low-income families are not equipped with the skills and knowledge the schools expect of them. Their experience with social environments such as the school is limited or nonexistent.

• The teaching learning system, especially as regards reading and writing, used in the first grade is not a universal one but rather represents the symbolic universe of a certain social class or sector while it excludes others. This mechanism works to discriminate against low-income children.

There is a further consideration regarding urban and rural environments.

This learning and teaching system used in the education system is unsuited to the needs of certain urban social sectors and is even more inappropriate for children from rural sectors. Furthermore, the data collected on the characteristics of the social environment observed in rural areas clearly reveal the situation of dire want as compared to the variety of social stimuli available in urban areas.

The purpose here is not to argue against preschool education but to pose several basic questions about preschool education and the nature of preschool education in Argentina. The first question concerns the real role preschool education plays in the learning process of low-income children. Available information indicates that preschool education may only help make first grade *easier;* it is the process of going through the first grade that *determines* just what is learned.

Does 1 year of preschool before entering primary school help make the education process more democratic? To clarify this question, it would be useful to make the distinction between *those who receive preschool education* and *those who benefit from it*. Those who see nursery schools as a democratizing force base this idea on the assumption that all those attending preschools also benefit from this experience.

However, study findings repeatedly showed from various angles that only some of the children going to preschool actually *benefit* from that experience, and they are generally not from low-income groups. The analysis of preeducation coverage clearly indicates that low-income children often do not even receive preschool education.

Again, this situation can be explained by structural social inequalities that must be taken into account when considering the different opportunities for access to preschools of the various social groups.

It is impossible to claim that preschool education provides a solution for problems of social inequality. However, we must help ensure that preschools do not become a new expression of these inequalities and create even greater injustices.

We are convinced of the need to *extend* the coverage of preschool education *quantitatively*. However, it is crucial that this extension be regarded as complete only when it goes hand in hand with regard for the quality of the education provided.

A reconsideration of the quality of preschool education leads to reflection of the reality of the rural and urban living conditions of low-income sectors. The question of educational quality is closely linked to the recognition of the needs, interests, and specific features of the social groups for which this service is provided. It is worth mentioning again that the low-income groups are the ones most adversely affected by the nonuniversality of current educational and teaching systems.

Again, there is a danger in introducing low-income children at an early age to the discriminatory mechanisms of the educational system. There is a pressing need to establish teaching systems that are in keeping with the real situation of low-income sectors and recognize and reap-

praise the culture of these groups. Any proposal for reaching this objective,[5] would have to include the following basic considerations:

- A characterization of the educational situation of low-income children, which would include identification of their social environment, cultural backgrounds, and, in particular, their symbolic universe;
- A methodology that would make it possible to approach and transform the situation of the low-income child and that would incorporate the people involved as active agents in the process of formulating and applying teaching and learning systems;
- A means of providing teachers with a knowledge of the nature of this social environment; and
- A new relationship between schools and families that would do away with present relationships, which are all too often based on the transfer of guilt to parents for their children's poor performance at school.

[5]An experiment is currently being conducted in the CIE as part of the program "Family Education to Prepare the Child Entering Primary School," under way in rural areas.

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Education and Social Class Formation: The Case of Preschool Education in Kenya

O.N. Gakuru[1]

Historical Background

The first nursery schools in Kenya were established in the large urban areas; one of the earliest recorded schools was in Nairobi in 1942. This nursery school and many others started during the colonial period were organized on a racial basis and primarily catered to the European community. But gradually preschool institutions were established to serve the Asian and African communities in towns. The racial criterion for admission into the urban nursery schools was removed just before 1963, the year that Kenya became independent, in preparation for a multiracial society. But the economic criterion was retained. The fees charged in nursery schools ranged from US$1.80 to about US$535.70 per term. Thus, parents at all economic levels were spending a large proportion of their income on preschool education.

The historical development of preschool education was further characterized by the spread of nursery schools into the rural areas. In some districts for instance, groups of parents built nursery schools through self-help programs in the early 1950s. In others, nursery schools were started as nutrition centres where children would sing, listen to stories, and play organized games while milk or soup was prepared. Similarly, in the large urban areas, the low-cost day nurseries that belong to the local administration are housed in large halls initially used as health and nutritional centres.

The spread of the organized preschool institutions to towns and rural areas was sponsored by the church, welfare organizations, and local communities through self-help. Community development and social welfare personnel in the rural areas, including expatriates and graduates from the Jeannes School, Kabete, now the Kenya Institute of Administration, played a very important role in creating awareness of the need for nursery schools in the rural communities.

Socioeconomic Context of Preschool Education

Access to well-paid jobs in Kenya is largely on the basis of educational attainment. The high minimum job qualifications arising mainly from greatly expanded educational systems and the failure of the economy to generate desired employment opportunities for the majority, is perceived by all social groups, including the rural communities, as a barrier to their intergenerational economic mobility. The support that the nursery school institution has received from the parents can, therefore, be understood fully only in the wider context of the relationship between educational attainment and the pay structure in Kenya. The great value attached to preschool education is clearly illustrated by the following responses obtained from parents in the rural areas who were asked the following question: *Why do you send your child to nursery school?*

"The present-day world requires going to school so that the child may benefit in future. There was no education (meaning schooling) in the past except farming and herding, but these days progress means education."

"My son Salim attends nursery school because it is the only way to progress. Everybody else sends their children to school. I would like Salim

[1]Institute for Development Studies (IDS), Department of Sociology, University of Nairobi, Box 30197, Nairobi, Kenya. The views expressed in this paper are those of the author. They should not be interpreted as reflecting the views of the Department of Sociology or of the University of Nairobi.

to succeed in his school career so that he may lead a materially rich life and I too will benefit."

"Nursery school is the beginning of learning. It is the eye-opener. My child would face problems if she entered primary school without preschool experience. In nursery school she learns the alphabet and numbers."

"Nursery school is the beginning of education. Attending nursery school prepares the child for standard 1 work. My child is in nursery school because it is the order of the day."

"To gain education so that he can aid us in future and also establish himself in life. I am very disappointed with my first child who went to school but dropped out after standard 7. I therefore sent the other child to school so that he could have a chance to prove his worth in life."

"To start education, the beginning of education is in the nursery school. He will not be a fool when he goes to primary school. In nursery school, he learns to count, to read and to mix with other children. Keeping him at home would retard his development."

The attitudes of the parents suggest clearly that the perceived range of opportunities available to their children extends beyond the traditional boundaries. Hence the need for the schooling system, starting with the nursery schools, to prepare children for the adult tasks of today's society.

As already indicated above, the factors that affect the institutionalized patterns of child rearing are mainly based on the changes in the economic sphere. For instance, the current process of breaking the extended family owing to a new land tenure system in favour of private landholding has reduced the importance of the family as a socialization agent for the young child. Many children now grow up without the care of the grandmother and other relatives of an extended family. There are other factors that have affected the socialization of the preschool age child, such as the reduction of the livestock herds that occupied the child and had educational functions. The other factor is the imposition of the schooling system that keeps the older siblings away from home when they ordinarily would have taken care of the preschool children. Furthermore, a large proportion of mothers spend most of the time at their places of work away from home; in the farms, marketplaces, and offices. The development of nursery schools is, therefore, a response to different needs. However, the most important function of nursery schools is education as suggested in a recent report on the Pre-School Education Project in Kenya (Gakuru 1979a; Kenya Institute of Education 1978).

Thus, although the child-care function of nursery schools cannot be ruled out altogether, the development of preschooling is largely a response by parents, communities, the government, welfare organizations, and private enterprise to the strong demand for education.

National Goals of Nursery Education

The goals of preschool education are best summarized in the Kenya Development Plan 1979–1983: "These centres assist young children to develop socially, mentally, emotionally, physically and culturally. Some nursery education is introduced at this level. They also enable mothers to engage in productive work outside the home."

The government participates in the development of preschool education through the Ministries of Housing and Social Services, of the Interior, Health, Education, and Home Affairs. The Ministry of Home Affairs is mainly concerned with the safety of the children and the Ministry of Health carries out periodic medical checkups on the nursery school children. However, the latter service is fairly inadequate particularly in the rural areas owing to transport and personnel problems. The Ministries of Housing and Social Services and of the Interior have for a long time promoted preschool education with emphasis on the custodial needs of the preschool child. It is only in the 1970s that they have expressed their concern for the intellectual development of the child. The Ministry of the Interior through some of the country, town, and municipal councils, participates in the development of preschool education in many ways such as training programs for the teachers and maintaining the nursery centres. Some of the councils that organize training programs for nursery school teachers are: Machakos, Kisumu, Kakamega, Murang'a, Kiambu, and Nairobi. In 1972, the Ministry of Education initiated a Pre-School Education Project with assistance from the Van Leer Foundation, Holland. One of the main aims of the project was to provide specific guidelines and training that would help preschool teachers in Kenya (Kenya Institute of Education 1978).

Administration of Preschool Education

There is no overall body to manage, develop, and supervise preschool education. The day-care centres, for instance, are built by local committees through self-help efforts sometimes with

assistance from the Ministry of Housing and Social Services. The majority of these day-care centres are found in the rural areas. The rest serve the slum communities in the urban areas. Each day-nursery is under the care of a parents' committee. The two main responsibilities of the committee are to appoint and pay the teachers from the fees paid and to ensure continued development of the school. However, in some districts, the authorities pay the teachers, supply educational materials, and employ supervisors for the centres.

In the urban areas most of the nursery schools belong to the local administration, church, welfare organizations, and communities. The rest are private nursery schools run as businesses. In Nairobi, for example, there are about 214 nursery schools. Out of this total, 78 are private and 70 are self-help.

The lack of coordination, control, and effective supervision of nursery schools has led to spontaneity, heavy influence of parental educational aspirations, a differentiated fee structure that reflects the unequal incomes of the different social classes served by nursery schools, and varied curricula. Indeed even in the rural areas, there are now some private nursery schools that charge a fee that a subsistence farmer cannot afford.

The new Ministry of Basic Education will only assist in curriculum development and teacher training. It is, therefore, correct to say that the management of preschool education will continue to be provided by the local authorities, churches, welfare organizations, parents committees, and employers.

Existing Facilities

The nursery school buildings are not standardized. In the urban areas, all except the self-help day-care centres have well-built permanent buildings exclusively for preschool with classrooms for the various age groups. These schools are supplied with both outdoor play equipment and indoor educational equipment. Indeed, some of these private nursery schools look like miniature department stores for children's toys, games, and books. Furthermore, the teacher-pupil ratio is roughly 1 : 20. Most of the buildings in the poor urban areas are, however, temporary, run-down and lack equipment.

The nursery schools in the rural areas are more or less homogeneous. But for a few exceptions they are all the product of self-help projects. Although most of the buildings are partially completed or very poorly constructed and are often without windows and doors, they do reflect the interest of the community. The most valuable help that these centres have received from government is the training of teachers. The first training program was conducted in 1966-68 at Kakamega and Embu, where thousands of untrained teachers work.

Most of the students in the training centres are school dropouts with 7 years of primary education. Only a few have postprimary education. Although there is no evaluative research on the performance of preschool teachers with different educational levels, some of the trainers hold the view that the graduates of the old 8-year primary education are better students. This observation is not surprising because these teachers are older and have more experience in nursery teaching than the others.

Teacher Training and Curriculum

There is a wide range of training institutions for nursery school teachers, as well as a wide range of in-service courses and workshops. The admission requirements for these training programs are as varied as the program contents.

The government has training facilities at several National Training Centres including Njoro, Matuga, Embu, and Kisii. The training programs in these centres are under the Ministry of Basic Education. Other government district training institutions organize short courses and seminars under the Ministry of the Interior. The Kenya Institute of Education (KIE) is also involved in the development of preschool training curriculum. There is also a private training program organized by the Kindergarten Headmistresses' Association.

The Pre-School Education Project of the KIE is an experimental project in the development of a curriculum for preschool children and their teachers and trainers. The project worked within the urban setting from 1972 to 1976 and trained about 30 teachers with different levels of education and teaching experience. In 1975, at the request of some local authorities, the project was involved in training teachers for rural preschools.

The task of this project was to design a well-rounded program with emphasis on preacademic preparation including motor skills, concept and language development, and observation and discrimination abilities used in reading, writing, and arithmetic. The graduates of the project have continued to disseminate the acquired knowledge to other teachers through brief formal training programs. The participatory approach that the

project uses in teacher training and development of curriculum accounts for the project's success in achieving the initial objectives.

The work of the Pre-School Education Project contributed to the establishment of the Pre-School Education Department in the Ministry of Basic Education, which uses both the educational materials and expertise of the Project.

Nongovernment organizations such as St Joseph's Montessori Training Centre, run pre-service and in-service training courses for nursery school teachers. The other private training program is organized by the Kindergarten Headmistresses' Association. Entrants to the training program are required to have a Higher School Certificate or a good "0" level pass with suitable personality. A maximum of 20 students are trained every 2 years.

Regional Distribution of Preschool Education

Enrollment

The total number of preschools, children enrolled, and teachers shown in various reports differ a great deal. This is mainly because the available statistics are both incomplete and unreliable. However, in 1973, from the available records, there were more children attending preschool than in all the other years, except 1980. In that year, there were nearly 300 000 children enrolled in 5800 preschools with a total of 6326 teachers.

The drop in enrollment almost by 50% between 1973 and 1976, was caused by the abolition of allowances in 1974 in the lower primary classes. But since 1976, the number of children enrolled in preschools has more than doubled.

Preschool Participation Ratio by Province (1980)

Preschool education is more developed in some regions than in others. For instance, there are more preschools in the Eastern, Central, Rift Valley, and Western provinces than in Coast, North Eastern, and Nyanza provinces. The uneven development of preschool education in terms of child enrollment is also reflected in the distribution of preschool participation ratios among the provinces.

Kinyanjui (1979), identifies similar regional differences in the provision of primary and secondary education. This regional differentiation in distribution of educational opportunities is a reflection of the economic and social inequalities: "Regional differentiation was one of the outcomes of uneven capitalist development in Kenya . . . . In this process four broad economic and political regions emerged which were nevertheless integrated into the colonial economy. *In independent Kenya, the process of development has been largely to consolidate the colonial structural inequalities* (Kinyanjui 1979). (Emphasis is O. Gakuru's.)

No doubt the total number of children involved in preschool education has made it a mass movement. However, the number of children enrolled is less than a quarter of the total population of children between the ages of 3 and 6 years old. Therefore, nearly 2 million children of preschool age are left on their own to either play around the homesteads or engage in other activities both in the rural and in the urban areas. Thus, children who attend preschools irrespective of the school category, are a privileged minority because at least they receive day-care attention from the adults.

Regional Distribution and Participation Percentages in Primary Education 1980 (Standard One)

Table 1 shows that the distribution of standard 1 places vary from region to region. Therefore, some regions have more standard 1 places than others. For example, Nyanza province placed into standard 1 more children than any other province in 1980, followed by the Rift Valley, Eastern, and Central provinces. Northeastern province had the lowest standard 1 enrollment. The regional distribution of standard 1 enrollment percentages indicates that the total number of children who enter primary schools is greater than the child population of either of the two ages given in Table 1, except in Nairobi and Northeastern provinces. The introduction of free primary education in 1974 allowed children who were overage to enter primary schools. Although the official age for entry into primary schools is 6 years, Table 1 shows that in actual fact primary schools in Kenya now admit both 5- and 6-year-old children, almost equally. On the whole, 82.9% of primary school-age children gain admission into primary schools.

Preschool Education and Social Class Formation

Preschool education is a part of the schooling system. It is, therefore, not exceptional in terms of how it is influenced by the basic socioeconomic

Table 1. The regional distribution and participation ratios in primary education (1980).

Region	Child population 6 year olds (1979)	Child population 5 year olds (1979)	Total	Standard one enrollment (1980)	Standard one enrollment as % of 5-year-old child population	Standard one enrollment as % of 5 6-year-old child population	Standard one enrollment as % of 6-year-old child population
Central	85018	88164	173182	128154	150.7	74.0	145.3
Coast	43856	45681	89537	53933	123.0	60.0	118.0
Eastern	98051	100836	198887	163157	166.4	82.0	161.8
Nairobi	19447	21360	40807	15994	82.2	39.2	74.9
North Eastern	13816	12672	26488	3275	23.7	12.4	25.8
Nyanza	93695	88389	182084	207871	221.8	87.6	235.1
Rift Valley	116910	115641	232551	196181	16.8	84.4	169.6
Western	64318	76230	140548	131041	203.7	93.2	171.9
Total Kenya	535111	548973	1084084	899606	168.1	82.9	163.9

Source: Kenya Population Census and Ministry of Basic Education.

structures of society in general. Although preschool contributes to the intellectual, social, and emotional development of the child, educational systems, including our own, have rarely behaved according to traditional precepts: rarely have they promoted either social equality or full human development (Bowles et al. 1976). In Kenya today only a few have the economic security and knowledge that is required to experiment with liberal concepts of the whole child, real-life experiences, developed in the progressive educational movement. Indeed, the overall uneven development coupled with the class nature of our society has resulted in gross inequality of access to material wealth and services such as food, shelter, medical care, and education. The provision of preschool education is not an exception and should be viewed in this context of inequality.

From the Preschool to the Primary School

Nursery education differs in the type of primary schools entered by their graduates particularly in the urban areas where existing acute economic and cultural differentiation is reproduced in the educational sector. The nursery and primary sectors have three basic categories interlinked by the flow of children. The three categories are the low-cost, medium-cost, and high-cost educational subsystems. The low-cost schools consist of nursery schools that charge term fees of up to about $14.28 (Kenyan currency) and are linked with schedule A primary schools. Most of the primary schools in Kenya are schedule A schools, i.e., the former colonial African schools. Today these primary schools are still predominantly African and offer free education. Although their enrollment is predominantly African, the students are from poor families in the urban areas and peasant and pastoral families in the rural areas. However, there are rich families in the rural areas who send their children to schedule A schools mainly because schooling facilities in the rural areas are less differentiated. The few educational opportunities available in the rural boarding schools are preempted by the rich who are conscious of their class position.

The medium-cost schools consist of both nursery and the primary schools that serve the lower middle class strata found mainly in the large urban centres. Most of the graduates from medium-cost nursery schools go to schedule B (former colonial Asian) and schedule C (former European) primary schools. In the colonial period, schedule C schools catered to the ruling class, the Europeans. Today these schools still carry out this function but without the racial characteristics of the colonial past. Parents with children in these primary schools now pay amenity fees of up to $78.14 per year. In addition, there are two other types of private primary schools besides the state schools described above. The first type belong to the Catholic Church, whereas the second type are commercial enterprises. The children who go to these last two types of primary schools first attend high-cost nursery schools, which charge a minimum of $86 per term. The private primary schools charge such high fees (ranging from $342.8 to $2142.8 per year) that only the very rich can afford them.

Figure 1 presents an outline of the structural relationships between the social classes and their corresponding educational categories both in the preschool and in the primary educational sectors.

In a study on preschool education and access to educational opportunities in Nairobi, it was concluded that the fees charged by preschools were strongly related to the primary school outcome index (Gakuru 1979b). In this study the preschool graduates were traced to their respective primary schools. The primary school outcome index for all the nursery schools in the sample was then computed on the basis of the number of children entering a particular primary school and its value in the ranking structure. The ranking of primary schools was based on the cost

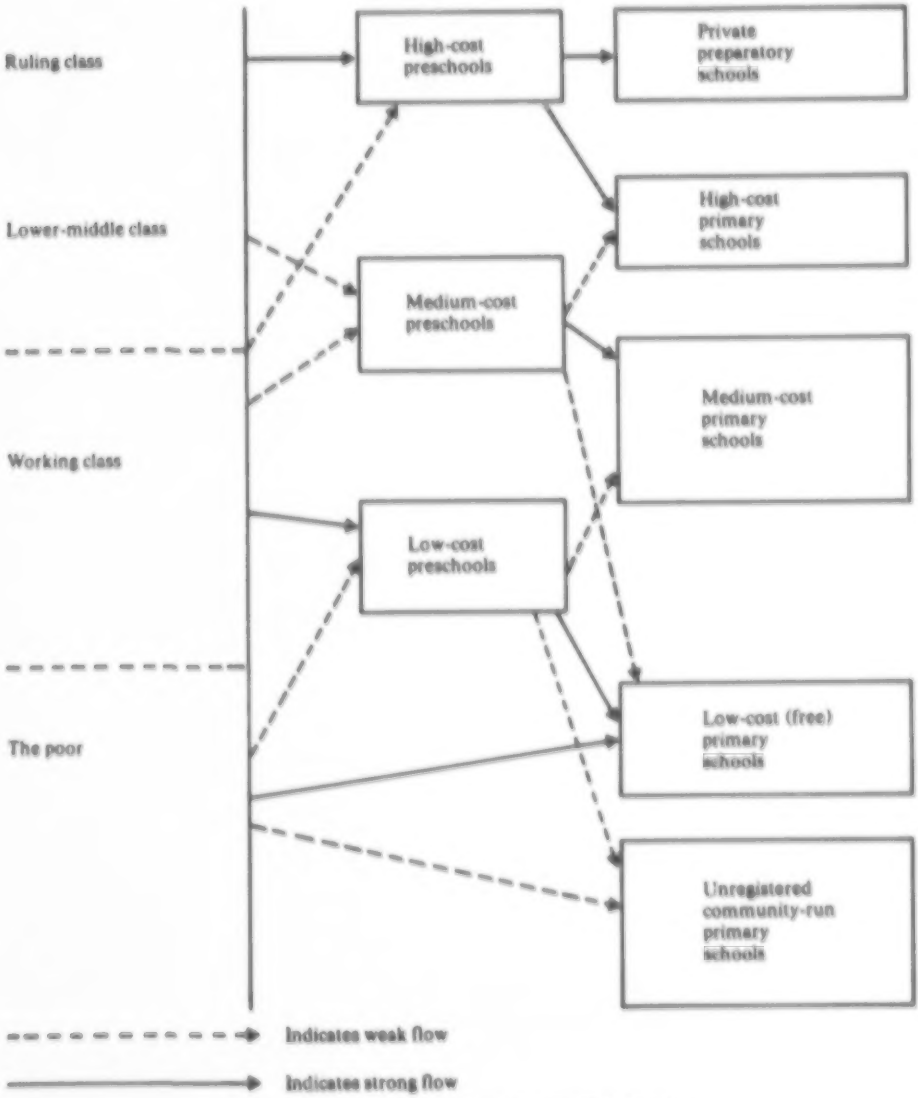

Fig. 1. Relationship between class structure and schools.

and status of the schools. For example, the quality of primary schools was assessed on the basis of performance in Certificate of Primary Education (CPE), which is used to select secondary school entrants.

Preschools are also being used as screens for admission into primary schools. In the urban areas and in some rural districts, for instance, children with preschool experience are given priority during the selection for standard 1 places. Although the official entry requirement is that the child be 6 years of age, there is competition for standard 1 vacancies because the existing facilities are inadequate. Furthermore, the problem of entry into primary schools, particularly schedule A schools, has worsened since the abolition of allowances in 1974, and later with the elimination of certain taxes. The lack of adequate government primary schools is reflected in the development of expensive private elementary schools and the building of informal community primary schools through self-help programs.

The three educational subsystems differ in other important ways. First, the distribution of teachers from the various levels favours the elite schools. Second, there are hardly any dropouts from the expensive schools, where children perform particularly well in the CPE examination. Entry into well-paid jobs in Kenya is largely based on academic attainment. Therefore, children from wealthy backgrounds have the privilege of guaranteed educational mobility that legitimizes the future leadership positions that they will occupy in the society.

As already pointed out, the development and structure of both the nursery and primary education reflect the existence of inequalities among the different social classes. For example, virtually all the children who are born in a slum community or on a plantation go to the low-cost self-help nursery schools and later to the poor-quality neighbourhood schedule A primary schools. But the children born in wealthy families go to the costly schools. Although there is competition for vacancies in all the educational subsystems, all the elite families are able to place their children in the schools of their choice. On the contrary, not all the poor families are able to send their children to schools owing to the inadequate provision of primary school facilities. In brief, at present in Kenya, there are schools for the poor and schools for the rich.

Primary school entrants also differ in the use of language. In one study (Gakuru 1979b), the following three different language uses were identified both at home and in nursery schools. First, there is the use of the English language by the ruling class. There are now, unlike in 1963 when Kenya became independent, black Kenyan children who are born into families that use English as their mother tongue. These children attend multiracial nursery schools with teachers qualified enough to understand the meaning of the liberal concepts such as the "full development of the child." Furthermore, these teachers use English as their mother tongue. The other type of language use corresponds to a middle-class background that is culturally uncertain as to the type of language the children should learn. This group favours the English medium-cost nursery schools at the earliest possible time to prepare their children for the good-quality English medium-cost primary schools. This seems to be the social group that is benefiting most from preschool education. The children of this upwardly mobile group go to nursery schools where they convert from the use of vernaculars and Swahili into the use of English. Early mastery of the English language is an invaluable resource because this is the language that is rewarded in the educational system and to a large extent in the occupational structure of Kenya.

Most children are from families where no English is used, and from both the rural and urban areas. These children can only speak their vernacular languages in the rural areas and Swahili in the towns at the time of starting primary education. These different uses of language present a major obstacle to curriculum development and efforts to equalize educational opportunities. There are indications that the curriculum will be progressively integrated with the local environment, including the use of language in the schools (Government of Kenya 1976). However, this will mean the continued use of English for the ruling class and the use of vernaculars by the other social groups.

Summary and Conclusions

Assessment of Effectiveness

There are several factors that impose serious limitations on the effectiveness of organized educational programs for the preschool child. First, the number of children that are enrolled in preschools is only a small fraction of the total population of preschool-age children. Second, there is unequal distribution of the existing preschool educational resources. The few centres that serve the elite background offer children a wide range of educational materials to work with under the guidance of qualified teachers. However, the

children who attend other centres are the majority and are exposed to a very limited educational environment. Most of teachers in these centres are not properly trained or have attended only short courses. The poor preparation of the teachers coupled with a lack of teaching aids have reduced these centres to mere extensions of primary education where most of the time is spent in teaching numeracy and literacy.

The third factor is that the prevailing interpretation of nursery education particularly by the parents is in favour of academic training. These expectations are a response by the parents on behalf of their children to the acute competition for desired opportunities. For example, some primary schools administer entry examinations, whereas others require nursery school experience. Because the emphasis on "achievement" by competency in literacy and numeracy skills is so strong, parents disapprove of the free-play activities involving playing in the mud and sand. This is disconcerting because free expression is an important part of the growth process of the preschool child (this attitude should not be confused with the legitimate concern of parents in areas where scarcity of water does pose problems of cleanliness of the child).

There are also not enough financial resources that can be channeled into nursery education both by the community and by the government. The parents are already spending a large proportion of their incomes to pay the fees and to construct the nursery school buildings. It should also be pointed out that a nursery school is just one of the many self-help projects in the community.

Policy Issues

- The government should provide the guidelines to fees parents may pay, standardize the educational content including the use of language, and the training of nursery school teachers.
- So far, the State entrusts mainly the parents and preschools with the educational and socialization duties pertaining to the child. But the dominant example of nursery school management available locally, particularly in the urban areas, is the Western model: it uses books such as the Lady Bird Books that depict 19th century England and rhymes and songs loaded with the mannerisms of the affluent. This orientation that emphasizes the Anglo-Saxon culture of the affluent alienates the child from the Kenyan national culture of the majority. Therefore, there is an urgent need to produce relevant educational materials that encourage children to identify themselves as Kenyan nationals. The work of the Pre-School Education Project of the KIE may offer a solution to this problem.
- Every child should be given an equal opportunity to develop his or her personal potential. At the moment, it is only the children of the wealthy that are well-fed and exposed to stimulating educational settings. However, to promote the intellectual and physical development of all children, the government should effectively ensure that there is an equitable distribution of wealth and services. It is only after the poor are liberated from the struggle to satisfy the basic needs, food, shelter, clothing, and good health, that their creative and other abilities can be realized.
- The new Pre-School Education Department is only concerned with establishing an administrative structure, teacher training, and curriculum development. It is clear, however, that nutrition and intellectual development of the child are closely related. Because the children of the poor are undernourished, preschools should both educate and feed these children.

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Fostering Readiness for Primary Grades: Innovative Action Programs with Municipal Schools in India

Veena R. Mistry[1]

Introduction

Children, their rights and our responsibilities have been spoken of so often that even the sincerest statement sounds like pedantic rhetoric. But besides the need to transform this concern into action there is a vital need to value children as human beings, who have a right to full development. Adequate development of the child, thus becomes the sine qua non of any plans aimed at the child, and the outcome will depend upon the impact on the target group rather than on the achievement of goals.

"If the focus is squarely on the development of human beings, then we need no longer view the child as an object of pity, standing in need of charity, welfare or other amorphous emotive concepts.

. . . Investment in childhood becomes investment in human resource development. A developmental approach must take the place of a welfare approach" (Swaminathan 1980).

Status of Children in India

Nearly 108 million children are born in the world each year and 1 billion 345 million children are under age 15; eight out of 10 of these live in what has been termed the Third World (Baig 1977).

The 1971 census of India reported 114.7 million children in the age group of 0–6 years old; assuming that 40% of the total population lives below subsistence level, this means that 46 million children live in such conditions. About 75% of the child population suffers from minor or major illnesses and cannot be considered healthy (Swaminathan 1978). Sixty out of every 100 children are illiterate; at least 20 out of every 100 never even see the inside of a school.

Of the total child population (0–14 years old) of 250 million (1971 census) nearly 80% live in rural and tribal areas. Out of every 100 children of preschool age, 74 live in rural areas, 20 live in urban areas, and six in tribal areas, but the number of children who receive preschool care in institutions is limited in rural and tribal areas. This has led to an erroneous assumption that all children in urban areas have the benefit of various services that exist in the urban environment. On the contrary, in actual fact nearly 42.5 million children live in dire poverty in urban slums.

"Yet for a long time these facts have been glossed over by the 'mystique' of rural India, a mystique founded on the indisputable fact that 80 per cent of India lives in the villages, but arising out of a confusion which identified all urban groups as affluent or privileged. It is only in the 70's that the urban poor as a distinctive group have become 'visible'. The special needs and problems of urban children have thus tended to be neglected, on the assumption that the facilities of urban life would automatically be available to and availed by the entire urban population" (Swaminathan 1979).

Yet somehow, with an indomitable spirit for survival, these children continue to live and adapt to the demands of their setting. This brief overview of the status of the Indian child is an indication of the gigantic task that lies ahead. Although actions have been undertaken, they often remain ensconced in the bureaucratic machinery. Added to this are the restrictions imposed by the limited resources — funds and trained personnel — to implement programs and the enormity of the task.

The notable efforts of the government and voluntary agencies have been able to reach only a miniscule portion of the target population. It is

[1]Department of Child Development, Faculty of Home Science, Maharaja Sayajirao University of Baroda, Baroda 2, India.

difficult not only to reach the entire population, but also to provide the range of services required to make "intervention" a meaningful, sustained effort.

During the past 3 decades services for children in general and for preschoolers in particular have been developed in a slow, haphazard, sectoral, and fragmented manner with major emphasis on either the health and nutrition component or on the services related to care and education. Health and nutrition programs are provided mainly through maternal and child health centres and basic health centres. Emphasis has also been laid on vaccination and immunization against certain diseases. Educational and care services have been offered by the *Balwadis*, or preschools, and organized by municipal authorities, government departments such as social welfare, and private and industrial organizations.

An integrated child development scheme implemented in 1975 introduced a package of services aimed at ameliorating the nutritional, health, and educational status of children and mothers. The programs cover a wide range of services, often overlapping, but are inadequate in relation to the magnitude of the problem.

Early Childhood Education in India

The evolution of early childhood education in modern India began quite differently in comparison to the Western countries, after which many of the programs have been modeled. In England, Italy, and even the United States early childhood education began as a concern for the "have-nots," whereas in India the situation is reversed. Early education programs in India began by catering to the upper and upper middle classes, and the programs have ranged from traditional models of teaching and various versions of the Montessori method, to attempts to adhere to the progressive philosophy.

Because these programs were formulated by the "haves" rather than the "have-nots," the programs developed for the latter were chiefly based on the experience with the former. For the majority of the children not only is the approach alien, but it fails to meet their needs because instead of providing a far more enriched environment (for the underprivileged), the attitude has been that for those who have nothing, anything will do. It is an attitude that leads to apathy or a feeling that "that's life" among the recipients as well as the planners.

Preschool and Primary School Education

If one were to consider preschool years as encompassing the ages 0–6 years old and divide it into segments of 0–3 and 3–6 years, one would find that until the last decade the first segment was virtually unprovided for. Provision for the age group of 0–3 years does exist in the form of nurseries and day-care centres, mainly commercial nurseries catering to the urban middle class and industrial nurseries as well as those organized by voluntary agencies for poor working women. According to a 1975–76 government report, a total of 741 nurseries served nearly 18.5 thousand children.

Most of the *Balwadis* have a half-day program with emphasis on formal teaching as a preparation for primary years. Some of these have a supplementary nutrition program, which has not been very successful owing to various problems. The staff consists of one *Balseviska* (a teacher, usually trained) sometimes assisted by a helper (untrained). The staff salaries are rather low and training is often limited.

In 1962, Tamil Nadu State launched a scheme of rural preschools in a large number of villages. These preschools employed local women as teachers, paying them a token honorarium. They underwent a training program of short duration and were provided with a supply of indigenous materials. This, then, became a low-cost model chiefly centred around the target community. But evaluation of the program indicated a need for strengthening supervision, training, and guidance of the program. This state also has a chain of *Balwadis* in rural areas and trains its *Balseviskas* with a major emphasis on the Gandhian philosophy of basic education.

The State of Rajasthan has established play centres attached to primary schools. The teachers of standards 1 and 2 take care of these play centres and are partially relieved from their classes during the time spent at these centres. This reduces the cost factor, although questions related to the additional work for the teachers and the adequacy of their training in meeting the needs of preschoolers are worth serious consideration.

Some of the cities that have large-scale preschools sponsored by the municipal authorities are Delhi, Bombay, Bangalore, Baroda, Ahmedabad, Hydrabad, and Pondicherry. These programs employ trained teachers; some provide free education, whereas others charge nominal fees. In some cases these preschools are attached to primary schools. Maharashtra State has

attempted to integrate preschools with primary schools especially in relation to teacher training. Just under 50 000 children in the age group of 3–5 years are served by the municipal schools, which essentially feed the municipal primary schools. Thus, many of these preschools emphasize formal teaching, and the quality of the program has often been questioned.

According to the Constitution, primary schooling is free and compulsory. The United Nations Children's Fund (UNICEF) in its 1975 profile reported that 73% of the total number of boys and 23% of the girls in the age group of 5–11 years were admitted to primary schools in 1973; of these only 45% of the boys and 52% of the girls entered middle school. In short, the dropout rate is nearly 50% during primary years. Statistics reveal that at the end of 1977–78 primary school facilities were available to 69% of the children in the age group of 6–14 years, 85% in the age group of 6–11 years, and 40% in the age group of 11–14 years. In terms of differences by sex, the following pattern emerges: 68% of the girls in the age group of 6–11 years and 27% in the age group of 11–14 years use this facility. There is a considerable variation among the country's states as to the availability of schools and the population covered.

Therefore, the major difficulty encountered in the process of the universalizing of primary education is retention. Out of 100 children that enter standard 1, only about 40 reach standard 5 and 25 reach standard 7. This high dropout rate has unfortunately been a stable factor over the last 3 decades (Murlidharan 1979). The children that do not attend primary school are wage earners or babysitters for their families. The problems of first-generation learners are indeed complex, the home is unable to guide or assist in the process of formal education, and these children seldom have positive experiences with the educational system.

Although the major reasons for the appalling dropout rate, wastage and stagnation, remain economic, poor facilities, learning that is irrelevant, an environment that is not stimulating, inappropriate methodology, and generally a poor quality of education are vital reasons for the inability of schools to hold children within their fold.

The multitude of disadvantaged children in India are a heterogeneous group spread over different geographic regions; their needs are similar but affected by varied environmental demands that touch their daily lives. Thus, although poverty and its concomitant forces impinge upon rural, tribal, and urban children, the needs they generate are different.

The basic needs of all these children have to be met, yet the approach and strategies of the programs must be as varied as the issues. The urban poor who enter the municipal schools are the focus of this paper, which attempts to trade the commonalities of four action research programs aimed at improving the educational system so that the children are motivated to remain in the educational flow.

Action In Favour of Children

Action in favour of children is long overdue. With the existing hiatus in the knowledge regarding various aspects of the growth, development, and learning processes of children, especially in the developing countries, it is essential that relevant and pragmatic research strategies be developed. Programs in actual settings with an action research bias can provide insights, guidelines, and answers to the problems that persist regarding the education of disadvantaged young children. In spite of some of the problems related to the rigours of research design, action research strategy seems to be an appropriate alternative for meeting the demands of the preschool and primary school setting.

Concern for the urban children who enter the municipal schools and implementation of a program geared to meet their needs along with an action-oriented research strategy are the rationales behind the four programs mentioned here. The first three are described briefly, whereas the fourth is presented in greater detail.

An action research project on early education in Delhi (Swaminathan 1979) was based on the assumption that the choice of the educational strategy has a significant impact on the outcome in terms of attendence, achievement in basic skills, and attitude to learning. Also, given the existing situation in terms of resources, personnel, and the high pupil–teacher ratio and without expecting any radical changes in the system or in the quality of the personnel engaged in teaching, it is possible to bring about significant changes by altering certain critical inputs, which would modify the actual teaching methods and practices used in the classroom.

The study aimed at: (a) improving the regularity of attendance in year 1 during the year and reducing the failure rate at the end of the year, (b) improving the performance of the children on achievement tests in reading and arithmetic at the end of year 1, and (c) fostering positive attitudes

on the part of the children toward the school, the teacher, peer groups, and the learning experience.

The final sample for the study consisted of 211 children selected from 10 different municipal schools classified as control or experimental. The schools were matched as far as possible according to size, number of sections, nature of facilities, timetables, whether or not they were coeducational, and occupational categories of the parents. For the microstudy, a subsample of 40 children, four children from each school, was selected on the basis of their performance on baseline tests. These children were tested for various abilities such as problem solving, imagination, emotional maturity, manipulation, and social behaviour.

The experimental teachers were all trained nursery school teachers with special preparation for the teaching of primary classes and were willing and interested to work on the project. In the control schools, the teachers who taught year I were retained as control group teachers.

The tools used for data collection were broadly categorized into three types: those related to the children's achievement, the children's attendance, and the teachers' classroom strategies.

For the study of the children's achievement, the reading readiness test (NCERT), the mathematics readiness test (developed by the researchers), the achievement test language (NCERT), and the achievement test mathematics (NCERT) were used. For the study of the children's attendance, records were obtained from the schools. For the study of the teachers' classroom strategies, the assessment of classroom activities (developed by the researchers), teaching activity, and teacher response (developed by the researchers) were used.

Data were collected on baseline tests, achievement at the end of the year, and attendance. The classroom information was collected by two observers who independently scored and collected information regarding the time spent by the class on activities such as reading, writing, arithmetic, and so on, and on teacher responses (positive, neutral, or negative). The children were divided into three groups according to their achievement: high achievers, medium achievers, and low achievers.

The results of the macro- and microstudies revealed no significant difference between the groups as far as reading and writing abilities were concerned. In reading readiness the children with preschool experience scored significantly higher than those without preschool education among the low achievers; whereas the children from a comparatively better socioeconomic status (SES) level scored significantly higher than the others. No significant difference was noted in mathematics for any group.

No significant difference in attendance was observed between the control and experimental groups as a whole but low achievers scored significantly higher in experimental schools than in control schools. The graph of attendance also showed that children with preschool experience had better attendance at school. The study attributes the probable reasons for the trend in the results to the small size of the sample and the use of a single achievement test at the end of the year. But further scrutiny and analysis reveal certain trends based on the following three questions: what is the influence of previous preschool experience; what is the influence of social background and can social disadvantage be countered; and how do children of differing academic abilities fare under different strategies of education?

In relation to the effect of preschool education, it was evident that among low achievers those with preschool experience were significantly superior to those without in regard to attendance, language, and mathematics. It was also seen that children profit more by informal methods as far as mathematics is concerned. The low achievers benefited most from informal teaching experiences, whereas the high achievers did well even in control situations indicating that, possibly, well-motivated children with adequate supportive social backgrounds will probably attend school even in unfavourable circumstances.

In preschool, trained teachers with appropriate supervision and support can effectively implement informal strategies of education. Preschool teaching also provides teachers with adequate training for developing materials, procedures, and strategies for informal learning.

In relation to the microstudy the question raised was: does the informal method accelerate the development of processes such as imagination, problem solving, manipulation, and social behaviour? An overall analysis indicated that the children from the experimental group performed better than the control group and also showed more growth over time, although these differences were not statistically significant.

The major recommendations of the study were:

- To provide informal teaching-learning situations, especially to meet the needs of low achievers, children without preschool experience and children from disadvantaged backgrounds;
- To make preschool education available on a

large scale, especially for children from disadvantaged backgrounds, and make optimal use of trained preschool teachers for the establishment of informal classes; and

- To provide effective supervisory strategies so that supervisors are guides and play a supportive role in the teachers' development.

An intervention program regarding the school readiness, general awareness of the environment, and personal hygiene of children in two municipal schools (Murlidharan 1979) was planned to develop a model for municipal schools with the aim of helping them develop a network of such model schools within the corporation system.

The specific objectives of the study were to "carry out an intensive intervention program for 1 year in two municipal corporation schools with the intention of raising them to the level of demonstration cum experimental schools." Two experimental schools (A and B) and two control schools (C and D), roughly corresponding in the socioeconomic status of the families, were selected. The experimental schools received intervention in terms of a developmental program. Nursery school children who were expected to attend year 1 in the next academic year were selected from both groups of schools (52 from the experimental group and 58 from the control group) to test the efficacy of the program. The tools used for the assessment covered areas such as various components of school readiness, intelligence, and the immediate school environment.

The developmental work undertaken in the experimental schools included physical improvement of the rooms, placing of display boards, a doll's corner, a sandpit in the school courtyard, and a clean drinking water facility. Certain equipment was purchased such as old tyres for swings, sets of building blocks, picture books, kitchen sets, beads, art materials, etc. The teachers were helped in the planning of a systematic program on the basis of weekly teaching units to be evaluated at the end of each week.

The results of the study indicate that the children from school A did significantly better than the children from school C on school readiness as well as awareness of their immediate environment and intelligence. In areas of hand coordination and personal hygiene the results were in favour of school A, although they were not statistically significant. In relation to the utilization of facilities and the overall environment, school A scored higher, but in terms of teacher behaviour, school C was rated higher. The results indicated no significant differences between schools B and D. The intervention program did not appear to be as effective in school B as in school A. The pre- and the postassessments do record a better school climate and an increased utilization of available premises and materials and equipment. The possible disadvantage here was the kind of building structure (small rooms in a flat), which made supervision and coordination of the program rather difficult.

It should be pointed out that although school A was handicapped by a less enthusiastic and active teacher, its children performed better than the control group, whereas the school C teacher, in comparison, was an active, pleasant individual who related very well to the children. This teacher with proper guidance could become an asset in producing better results.

In conclusion, municipal corporation schools that serve the disadvantaged sectors of society need to develop an effective planned program. Although the basic facilities were usually available, carefully planned guidance with theoretical bases and concentrated supervision were lacking.

For nearly 10 years the College of Social Work (Desai 1977–78) has been establishing a program of social work in schools in collaboration with the Education Department of the Municipal Corporation of Bombay. During the first phase of activities the major emphasis was on isolating socioeconomic obstacles that interfered with the child's learning and to identify and utilize sources of social welfare. "Our experience during this phase showed that we were able to prevent failures which occurred due to environmental deficits such as lack of books, adequate clothing to attend schools and irregularity due to health" (Desai 1977–78). The social service program also started a preparation program for children entering school for the first time. This 1-month program now has been introduced in many schools by the Education Department. Preliminary data indicated reductions in standard I dropout rates.

The project also found that the proportion of children who dropped out of school was greatest in primary schools (during standards 1–3), and was proportionally greater in standard 1 — the point of entry. "These children appeared to be less influenced by environmental deficits, and much more by the fact that they were not attracted to school" (Desai 1977–78). It was also found that because many of these children were first-generation learners were poorly equipped for the tasks of schools and its formal structure.

With this background, during 1974–75 attempts were made to modify classroom organization and teaching methods to increase children's motivation for school. The program was started

among a group of standard I children drawn from failures of the previous year. The classroom modification included changes in the physical setting and the design of an activity-oriented program. The experiment was considered successful as children performed well in the examinations, attendence improved, and the dropout rate was marginal. Owing to the success of the project, the Education Department supported the attempt to improve the educational inputs at the point of entry. In general, the child who dropped out had not been considered a problem for the school but the result of a lack of interest and responsibility on the part of the parents.

In 1976–77, the program was extended to six standard I classes in various corporation schools in two areas of Bombay with eight divisions of experimental groups and 10 divisions of control groups. During 1977–78, the program was extended to more divisions and attempts were made to expand the program to standards 2 and 3 of schools that had had experiences with standard I programs. The emphasis was on making use of different teaching aids and working with slow learners. In some of the schools, attendance was about 89% and dropouts were negligible in number, and those who did drop out did so for reasons such as a change of residence or ill health rather than apathy or lack of interest in learning. It was also found that during the first 2 months of the academic year, from five to seven children dropped out of each class, but from mid-year onward the number of children in the class remained stable. The number of children who passed the examination was greater in the experimental group (67%) than in the control group (60%). In some of the experimental schools, the percentage of passes was as high as 86%.

It should be stated here that although the emphasis of the program was on improving and modifying teaching-learning practices, the program also attempted to provide services in other areas such as health, provision of books, scholarships, vocational guidance, science improvement projects, and social services for schoolchildren. Recreational facilities and cultural programs were an added dimension. Thus, the program has not restricted itself to one age group or to limited activities for intervention. This flexibility and diversity probably has been the greatest strength of the project.

The leitmotif underlying the Child Development Department's program of field work and action research has been to develop ways of improving services for children in the city to meet the needs of some of the disadvantaged children while promoting child development.

In Baroda city about 26% of the population in the age group of 3–5 years old attends either private preschools or those attached to the municipal schools. Then there are the *amgam wadis* that serve very low-income areas where resources and teacher training are extremely inadequate. Most of the teachers of the 44 municipal preprimary schools are trained. The city corporation has been supporting 86 primary schools with an enrollment of 44 240 students. The coverage of children in economically better areas is 86%, whereas in low-income areas 33.9% of the children do not attend any school.

Thus, a dire need was felt for the involvement of the department in coordination with the Municipal Corporation School Board, to plan a broad-based project to prepare children for the first standard curriculum. The project is ongoing and, thus far, two phases have been completed (Verma et al. 1980).

The broad objectives of the first phase of the project were: (a) to conduct an in-service teacher training workshop to create an awareness among teachers of the need for a readiness program; (b) to develop a readiness program in the areas of language, including reading and writing, mathematics, science, and social studies; and (c) to implement a readiness program at the beginning of the first grade in a municipal school of Baroda.

In-Service Teacher Training Program

The objectives of the in-service teacher training program were: (a) to orient the teachers to the concept of school readiness; (b) to create a nucleus of teachers favourably exposed to the in-service program who would later act as resource persons for further programs; and (c) to evaluate the effectiveness of the in-service program through a follow-up study.

Teachers from the various kindergartens and primary sections attended the in-service training program. The program consisted of lectures, demonstrations, group discussions, and the preparation of teaching aids. The main thrust of the program was to convince the participants of the desirability and importance of a school readiness program and give practical demonstrations on how the various curricular areas already mentioned can be taught making use of the local, easily available, and inexpensive materials while organizing a readiness program. At the end of the program the participants completed a questionnaire to evaluate the program.

Development of a Readiness Program

The readiness program was developed with the

purpose of preparing children for school-related tasks and behaviours, and thereby facilitating the transition from home–preschool to school and creating the necessary motivation in children to remain in school and, thus, avoid wastage and stagnation. The specific objectives pursued here were: (a) to develop a 6-week readiness program encompassing the major components of schooling, namely language, including reading and writing, mathematics, science, and social studies; (b) to develop a comprehensive program on readiness activities using various dissertations by experts on readiness prepared in the Department, other printed sources, and experiences of researchers.

Based on the overall view of the research and the program, the study took the following points into consideration: (a) to relate the first-grade curriculum to the readiness activities to face the common problems teachers encounter generally in attempting to cover the curriculum; (b) to devise and design simple, inexpensive, and easily available methods, techniques, and materials that are applicable on a large scale; and (c) to devise methods of handling large groups of children so that the advantages of individualized teaching are retained through techniques of small group work, work assignments and unsupervised study, self-study instructional materials, and other aids.

Implementation of a Readiness Program

The readiness program built around the first standard syllabus of the municipal schools was offered for about 6 weeks and soon after the children entered school. The objectives pursued during the program were: (a) to develop tools of pre- and postobservations of children in the areas of language, including reading and writing, mathematics, science, and social studies; (b) to make ongoing observations during the span of implementation of the readiness program and to make the appropriate modifications to the program based on these observations; and (c) to assess the gains made by children on the basis of pre- and postobservations.

The sample of 55 children was heterogeneous with respect to both age and sex (ages ranged from 5 to 10 years). This wide range was attributed to children starting school late, whereas others entered at the beginning of the academic year for a few months to claim scholarships, books, etc. and discontinued and entered the next year with a younger sibling.

The observations of the natural classroom setting was conducted before, during, and after implementation of the program. The areas of observation related to the five components of the program. Preobservations provided the necessary base line data and also made it possible to divide the children into three groups (A, B, and C) according to their level of performance. After the children were grouped, the program was organized for each group separately with a flexible time framework that allowed the children to move at their own pace.

The most outstanding results of the in-service training program and the readiness program were as follows:

- Almost all the teachers participating in the in-service program felt that they had benefited from the program, although a few were skeptical about its implementation in municipal schools under the prevailing curricular, administrative, and financial constraints. The majority of them agreed that children learned better via active manipulation of objects and materials.
- Both the nursery school and primary teachers found the number of children in their classrooms unmanageable.
- The teachers felt that a change was required in the first standard syllabus and in supervisory practices.
- Most of the children of groups B and C were lacking in the basic skills of reading and writing, mathematics, science, and social studies at the preobservation stage. An improvement in their performance was seen for both the groups during the program and was confirmed by the postobservations.
- The children of group A were the most efficient in the skills required for the five components of the program. They, therefore, entered the prescribed curriculum more quickly and with greater ease than the children from groups B and C.
- No differences were observed between the children's performance 1 week after program completion and the same children's performance after a longer interruption over the mid-term break.
- The incidental gains made by the children were: increased concentration at work; completion of the task at hand; greater confidence in relating to the researchers, teachers, and other members of the school; and the successful completion of work the children had been unable to complete at the preobservation stage.
- Out of the total sample of 55 children, 24 children had preschool experience before first standard entry. Eighteen of these 24 children were either in group A or group B at the preobservation stage, indicating greater competence in

the basic areas of the curriculum. The remaining six children who were in group C performed better when compared to the other children of that group. The impact of the preschool program was evident.

The second phase of this project was conducted during 1980, and the specific objectives were the same as those of phase one of the in-service teacher training program, but the teachers were from standard I. A microstudy was planned with the aim of observing a small group of teachers for specific teacher-related behaviours and interaction before and after implementation of the in-service program.

A group of 30 standard I teachers with representatives from each NPSS ward (selected by NPSS authorities) were exposed to a 1-week in-service training program conducted at the Child Development Department. Of these, seven, constituting the microstudy group, were observed before the workshop using the following tools: Flander's Interaction Analysis Categories, the Classroom Environment Checklist, and the Adult Activities Checklist (Keele University).

Following the observations a 1-week workshop was held in an attempt to involve the participants as much as possible and expose them to activity-oriented experiences. The main subject areas covered during the workshop were language, mathematics, science, and social studies. There were sessions for which the participants prepared teaching aids and planned programs or units on various topics. The program instructors were educators and experts in the related subject areas.

Postobservations to determine changes as a result of the workshop were done using the same tools as were used in the preobservations for the microstudy. Separate observations of the seven teachers were made during their teaching hours to find out whether or not the areas dealt with during the workshop were being implemented in their classrooms. On-the-spot guidance and suggestions were provided to the teachers by the observers. Periodical meetings were held with the teachers to share issues and problems. Besides these meetings, seminars were held for the total sample of teachers who had attended the in-service program. The supervisors were also invited to attend both meetings and common problems were discussed, thus providing a platform for meaningful interaction.

The salient features of both the macro- and microstudy were as follows: All the teachers valued the experience of the in-service program. In the pre in-service questionnaire they expressed the need for better curriculum planning, a more positive attitude on the part of the supervisor, and greater administrative support. They also expressed concern about the large number of children in the classrooms and felt that wastage and stagnation were mainly owing to family circumstances and parental attitudes. In evaluating the workshop, they felt that their main gains were in the areas of understanding the children, ability to plan better programs, preparation of low-cost teaching aids, and more confidence in themselves. The teachers often expressed concern over the lack of physical facilities and equipment.

The microstudy related to classroom environment and teacher activities and interactions revealed that there was no marked change in classroom environment except for some displays and access to materials. Adult activities were observed according to these criteria: nonassociative, associative, and monitorial activities. Before, during, and following observations, the teachers spent a great deal of time in monitorial activities. Both during pre- and postobservations the teachers spent some time in nonassociative activities such as consulting another teacher, arranging for snacks and milk, or just talking with other adults about matters unrelated to their role. Another area of nonassociative activities in which the teachers lost time was preparatory activities. In associative activities postobservations showed greater use of teaching aids and verbal interaction with the children and attempts at developing relevant concepts while conducting a lesson. Supervisory activities dealt mainly with checking written work, and most of the teaching was conducted by lecturing.

Flander's Interaction Analysis Categories revealed that there was no marked difference between pre- and postobservations. Some of the highlights focused on the teachers' awareness of providing more encouragement for the pupil; some teachers began to accept the pupils' ideas. Behaviours related to asking questions, giving instructions, and criticizing showed a decrease during postobservations. Lecturing on topics increased for some teachers, so did periods of silence/confusion in comparison to the preobservations. The increase in this category for some of the sample could be owing to a slight but observable change toward student orientation and a lessening of criticism and of the authoritarian attitude on the part of the teacher.

It is evident that teachers need to spend more time in interaction with pupils in the area of accepting and clarifying the pupils' ideas and reducing teaching via lectures. That the interactions in general remain authoritarian and teacher oriented can hardly be denied. Within the cul-

tural setting to a great extent the authoritarian attitude of the teacher is acceptable and expected behaviour. Therefore, it would be unwise to introduce an alien artifact and modify teachers' behaviour; on the contrary, it might be more beneficial and pragmatic instead to develop a greater sensitivity toward the children on the part of the teachers so that a flexible and a learner-oriented approach may develop.

Although the teachers are able to talk about the children's needs and understand the differences among children and their abilities, this sensitivity is not seen in their interactions and activities with children. The classroom situation, with its problems of a lack of space and equipment, a high pupil–teacher ratio, and clerical as well as administrative responsibilities, makes the teachers' task that much more difficult.

Based on these experiences the recommendations to the Department include a longitudinal study of children exposed and not exposed to the readiness program, the planning and implementation of a home-based program, and the introduction of a model program providing year-round guidance and supervision to the teachers of selected schools.

The recommendations for policymakers aim at clarification of the supervisor's role, the setting up of a material resource centre, gearing the curriculum of the first two grades toward learning by doing, lessening the administrative burden of the teachers, and so on. It was also recommended that it might be beneficial to associate actively the supervisors and administrators during future in-service programs.

Issues and Conclusions

The issues, conclusions, and suggestions that emerged from the four action studies reviewed in this paper are listed below.

Research

- The action programs and studies provide certain insights, guidelines, and answers to the problems that plague us regarding the education of disadvantaged preschool-age children.
- In general, much more research is needed to answer the question; can preschool education help break the cycle of poverty, deprivation, and disadvantage?
- There is a need for research in the area of classroom behaviour of teachers and children and the interactive effects. It is also necessary to determine the cultural significance of certain adult behaviour in the teaching–learning situation and its impact on children (e.g., authoritarian attitude).
- Longitudinal and follow-up studies to determine the effects of various intervention programs on children need to be conducted.

Programs, Parents, and Children

- Preschool education seems to have a positive effect on low achievers, and, therefore, there is a need to expand the scope, nature, and the number of preschools, especially in poverty stricken areas.
- Informal or activity-oriented approaches and methods were the focus of all the programs.
- Preschool teacher training principles and methods were practiced by primary school teachers in all the programs with favourable results.
- To a certain extent social disadvantage is counteracted by intervention. A trend to this effect is seen when intervention is in terms of educational strategy, but when intervention is comprehensive and multifaceted its impact is all-encompassing and sustained.
- When the programs are aimed at lessening certain environmental deficits that impede learning and the educational process, they tend to have longer-lasting effects.
- Strategies for working with parents and the community need to be developed and parent involvement must be made an integral part of preschool and primary education. The nature and extent of such involvement should be clearly related to the cultural and subcultural setting of the target group.
- A home-based program involving the parents in the teaching and child-care processes should be planned. Such a program would probably have a ripple effect within the family and, thus, provide support and stability.
- Primary schools should be extended downward to preschools and day-care centres for toddlers and infants, so that the pressure of child-minding is lessened for the older children, leaving them free to attend school. Consequently such programs would also provide younger children with much-needed care and an enriched environment.
- School timetables should be changed, if necessary, to accommodate working children, or alternative employment provided.

Readiness Programs

- Some form of readiness program before first standard entry is needed to offset disadvantages and prepare the children to meet the rigours of the formal learning process.
- The children's performance is improved if the readiness program is precise, ordered, and

closely related to the expectations of the formal learning process.

- An improvement in the physical set-up, working conditions of the teachers, availability of materials and resources, as well as a lessening of administrative and clerical duties would go a long way in creating a favourable environment in municipal schools.
- There is also a need for an effective program planning and implementation process in municipal schools. The focus of the program needs to move from being syllabus oriented to being child oriented.
- Relevance to the child's life and good quality are absolutely necessary in any program.

Professional Personnel

- The teacher's role is not only vital but goes beyond the confines of teaching, especially if one visualizes preschools and primary schools as centres to help improve the quality of life of the children they serve.
- A qualitative improvement in teacher training programs becomes the focal point. In-service teacher training programs can play a vital role in developing skills, competencies, and characteristics essential for personnel who work with young children.
- There is a need to develop a cadre of teacher aides or paraprofessionals (preferably drawn from the community) to assist teachers in their classrooms and, thus, mitigate the problem of the high pupil–teacher ratio. These paraprofessionals would be a link with the home and help supplement the integrative aspects of the comprehensive program.
- The role of the supervisor needs to be viewed critically and the necessary steps taken so that the supervisor becomes a guide and facilitator for the teacher.
- In-service programs for supervisors and administrators would go a long way in meeting the above needs.
- All the programs helped the teachers develop teaching aids that were valued as a resource by the teachers. Actual demonstrations on the use of these aids with children would go a long way toward making the teaching process easier and more effective.
- Any innovation in the methods and materials should be such that their applicability and acceptance in the classroom cannot be questioned.
- Using teachers (who have attended an in-service training program) as resource persons in future sessions would be an effective strategy both for the participants and the teachers. Similarly, setting up model centres within the existing schools would provide the necessary stimulation to the municipal schools, besides being centres that can be emulated.
- Continuity and reinforcement over time to ensure the qualitative and quantitative development of various intervention programs is needed.

These conclusions are by no means comprehensive, and many more suggestions can be made for every aspect of programs for children from disadvantaged sectors of society. Among the disadvantaged children, those who enter the portals of the education system may be considered elite. But unless strategies are developed and implemented to keep the children in school for a reasonable time, the universalization of primary education will remain a dream.

The programs that have met with success have demonstrated that the prerequisites are quality, a comprehensive, integrated, and nonsectoral approach, the lessening of tangible environmental deficits, and well-trained professionals. One could linger over the small successes of some of the endeavours but action research entails commitment to the cause and, therefore, in the final analysis no earthshaking discoveries have been made nor has any innovative or original recipe for the disadvantaged been concocted. All that is suggested is that change, growth, and development (in working with the poor) are painfully slow processes requiring painstaking efforts, acceptance of criticism, a critical attitude, and, above all, commitment to a realistic, relevant, and long-term endeavour.

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Preschool Services in Thailand

Nittaya Passornsiri[1]

According to the generally accepted principles of developmental psychology, a child's earliest years are most important for physical, mental, social, and personality development. The initial life experiences may enhance, expand, or inhibit his or her further development. This, of course, depends on the environment at an age when the child learns most rapidly. Thus, if we do not teach the child properly in the beginning, we will spend even more time remedying our mistakes (Home Economics Associations of Thailand 1975). With this recognition, the Committee for Establishing the Framework for Educational Reform proposed that the building of potentialities and character in Thai children must begin at early childhood (Office of the National Education Commission 1976).

Suppose the following questions were asked: How important does the government consider the services and education of these children to be? What are the most common problems of Thai children?

To adequately answer these questions, we must examine government policies and practices and the present status and problems of Thai children and government efforts to solve these problems. This paper will seek answers to the above questions in related studies.

National Policy on Preschool Services

The evolution of preschool education in government policy has gone from emphasis on formal teaching to emphasis on the child's total development. Also, the emphasis has changed from providing only formal schooling (kindergarten and preschool classes added on to primary schools) to a nonformal approach to education (in the form of child development centres).

At present, the government realizes the importance of organizing preschool education and views education as a component of a comprehensive services program for children. These can be seen from the government's acceptance of the principles proposed in the report by the Committee for Establishing the Framework for Educational Reform in 1975. One of these principles specified the importance of preprimary education and the need to coordinate the efforts of the responsible agencies in the mobilization of resources to provide proper care and training before compulsory education for children in every locality. Taking care of the young child is the joint responsibility of the family, the community, and the government. In organizing services, efforts must be coordinated on all fronts including health, community development, nutrition, and education (Office of the National Education Commission 1976).

The National Scheme of Education, 1977, undertaken in 1978, established the groundwork on which the government was to accelerate and promote preschool education. The responsibility was to lie mainly with local districts and the private sector on the condition that the centres remain under government supervision. At the preprimary level of education, the government was to provide some model kindergartens and do relevant research (Office of the National Education Commission 1977b).

This policy statement was expanded and made more operational in the Fourth National Education Development Plan (1977–81). The plan states that precompulsory education may be of different types as appropriate to local conditions. Preschool models may be arranged as either formal or out-of-school education. It may, for example, take the form of a nursery home, a child-care centre, a class for small children, or a kindergarten. The aim of preschool education is to lay a foundation so that a child may go on to the next stage of his or her education properly

[1]National Education Commission (NEC), Sukhothai Road, Bangkok 3, Thailand.

prepared (Office of the National Education Commission 1977a).

Educational policy relating to preschool services also appears in the Fourth National Economic and Social Development Plan under public health, food, and nutrition policies. Government policy on public health calls for: ". . . improvements in the health of mothers and their children and in nutrition in general, especially among infants and preschool children, to ensure that the nutritional content of foods provides the necessities for physical growth" (Office of the National Economic and Social Development Board 1977). The policy on food and nutrition requires that preschool children (between 6 months and 2 years of age) with nutrition problems receive the necessary food supplements at the various service centres maintained by the Ministries of Public Health, the Interior, and Education and the Bangkok Metropolis; that stations be set up in the villages to distribute such foods; and that food be distributed directly to the houses of children with serious problems (Office of the National Economic and Social Development Board 1977).

Up until now, there has been no policy concerning universal preschool education other than the proposal of the Educational Reform Committee that 5-year-olds in the rural areas be given the benefit of compensatory education before entering primary school at age 6.

Although there is a need to coordinate the agencies responsible for organizing preschool services, the lack of a clear definition of the role of each agency has resulted in expanded separate efforts rather than in cooperation (Sriprasat 1979). As a result, there is duplication of services for preschool children in some areas, whereas in other areas no services are available.

Current Status of Preschool Services: Problems and Issues

Preschool services are increasingly important. Not only have women gone from being housewives to being outside workers, but the competition to enter prestigious primary schools requires that children be well-prepared for their further education.

In responding to the need for preschool services, both government and private agencies are involved in preschool programs. The government agencies include various departments of the Ministry of Education, the Ministry of the Interior and the Ministry of Public Health.

Many types of preschool experiences are available to children in this age group: (a) formal education for 2 years in kindergarten for children between the ages of 4–6 years old; (b) formal education in schools for preprimary children who may spend 1 year there before entering the first grade. These children are 5–6 years old; and (c) nonformal education in child development centres of various types such as nutrition centres, child development centres, day-care centres, or child-care centres. The ages range from 0 to 6 years.

The first two types of the preschool experiences aim to prepare the children for entrance into primary education, whereas the third type aims to provide child-care services to reduce the burden of working mothers. Some aim to improve child health and nutrition.

The differences in the objectives of the agencies are attributable to the need to match their services to their own major tasks. For example, the Department of Health directs its efforts at solving the health and nutrition problems of children, which is part of its principal task regarding people of all ages.

However, almost all of the programs stress instruction in the three R's, often in response to parental pressure. Parents believe that the sooner their children learn to read and write the higher will be their achievement in school. Furthermore, child-care workers or teachers perceive learning and reading as synonymous. If they do not teach the children to read, they do not know what activities to organize in its place. In addition, the most important reason for the emphasis on literacy skills is the primary schools themselves, because eligibility to enter the better known schools is based on a competitive examination (Office of the National Education Commission 1979).

As for the *availability of services*, about 9% of the children in the 4–6 years of age group attend kindergartens and child development centres, which means that there are about 3.6 million children in this age group who do not have any access to preschool services. The opportunity to benefit from these services is open only to those who live in the cities, suburban areas, towns, and certain rural areas. Of the total number of children who received such services in 1979, 41% were children from Bangkok, whereas the other 59% were from 71 provinces (UNESCO 1979).

The distribution of the 4641 school centres by area is shown in Table 1 (66% are government school centres, 1% of which are in Bangkok and 65% are in other areas). Of the 34% of the nongovernment centres, 20% are in Bangkok and 14%

Table 1. Preschool statistics in 1978.

Area	Preschool-age children (4-6 years)	No. at preschool institutions		Preschool institutions						Institutions that train preschool teachers		Cost of preschool education in 1977 (recurrent cost person year)[b]	Income per person 1977[c]
				Government		Non-government[a]		Total		Government	Non-government		
		No.	%	No.	%	No.	%	No.	%				
Bangkok	n.a.[d]	151298	41	62	2	893	20	955	21	2		2671	n.a.
Other provinces	n.a.	217721	59	3014	65	672	14	3686	79	14		758	n.a.
Total	3985000	369019	100	3076	66	1565	34	4641	100	16		824	8377

[a]Private kindergartens under the Ministry of Education, private nurseries under the Ministry of the Interior, and preschool centres operated by private agencies.
[b]Average cost from a sample survey of preschools, 1977, NEC, unpublished data.
[c]Office of the National Economic and Social Development Board, National Income Statistics of Thailand, Bangkok, National Accounts Division, 1978, 10.
[d]n.a. = not applicable.

are in other areas. Thus, there are more government centres than nongovernment centres in other provinces. The situation is just the opposite for Bangkok. Also, preschool children in Bangkok are served mainly by private kindergartens and private day-care centres, whereas children in other areas are served mainly by child development centres, child nutrition centres, and preschool classes in primary schools.

Although only 11% of the children receive these services, and the government contributes 28% of the investment cost, there is still an overlap of investments in some localities. At the same time, there are still many poor children who receive no services whatsoever (Department of Technical and Economic Cooperation 1978).

In addition, the orientation of the programs is essentially toward educating children of normal physical and mental capabilities. Facilities for the deaf, the blind, and other types of disabilities are very limited (Office of the National Education Commission 1977b).

As for the *nature of financing*, preschool education during 1974-77 received 72% of its financial support from donations, parents, and foundations; the remaining 28% was provided by the government (Office of the National Education Commission 1979).

The degree of government support varies considerably from area to area. For example, government kindergartens, which mainly serve advantaged children, receive full salaries for teachers, equipment, supplies, and a building. Child development centres receive partial support for equipment and supplies and a monthly salary of about US$16 for every child-care worker. Parents are required to make up the difference between the funds provided by the government and the total cost of the services. Private kindergartens are financed mainly by allowances and registration fees as government support is limited. The annual cost per child for all types of centres is from US$1 to US$300 (Office of the National Education Commission 1979).

The average current costs for preschool education in Bangkok and other provinces are US$133 and US$38, respectively. The cost of providing such services in Bangkok is almost four times greater than in other provinces. When comparing the cost of preschool services with income per person, the cost of services is considerably high and this may be the reason why such services do not reach the most disadvantaged children in the rural areas.

In general, the preschool children receiving these services are of upper- and middle-class sta-

tus as seen from the per-person income of their families ($1700 or more), which is above the Thai national average. These children also have better nutrition than the national average (Office of the National Education Commission 1979). From the weights of children 2–4 years of age in the schools and centres, 0.29% were severely undernourished (degree 3), whereas 4% and 29% were undernourished (degrees 2 and 1), as compared with the national average of 3%, 35% and 30%, respectively (Office of the National Education Commission 1981).

The foregoing information gives an overview of the external factors related to preschool opportunity. If preschool educational factors are looked at as a means of preparing children to enter the primary school system, there are still many problems, especially regarding the role of the school or centre in widening the achievement gaps among children entering primary school. The problem is a result of vast differences in the quality of existing services. Moreover, the government has given the best to those with the best opportunities. Therefore, it is suspected that these causal factors somehow accumulate in disadvantaged sectors of society. They produce more and more extreme differences in primary school learning.

As for *conflicting beliefs in preschool education*, there exist different theories and practices as to the types of experiences that should be given to preschoolers, e.g., emphasis on learning the three R's versus play activities, formal schooling versus nonformal organization, and so on.

Current practices indicate that the majority tend to favour the formal method of group instruction rather than individual interaction with children. In addition, the majority tend to support the teaching of the three R's and are supported in this by parental aspirations. Thus, certain private kindergartens have provided both programs in the same school to satisfy the choices of the parents.

One of the studies conducted attempted to measure the direct impact of two preschool programs on student achievement in grades 2 and 4. The comparison was made between those who went through an overall readiness program and those who formally learned the three R's before entering grade 1. The findings were that both groups performed the same, except the first group achieved decidedly better results in social development than the second (Thai-Israel Friendship Group 1980).

Another study showed that children who went through a readiness program in their early years enjoyed learning in primary school more than those exposed to the three R's program. The first group learned happily, whereas the second group became bored (Thai-Israel Friendship Group 1980).

The last problem to be considered here is the problem related to *personnel*. The survey by the National Education Commission indicates that there are large differences among the staff of the schools and centres with respect to both preservice and in-service training and academic and technical assistance. There is also a need for close and continuous supervision in this regard (Office of the National Education Commission 1979).

The preceding view of the current status of preschool services has shown the government's efforts respecting preschool education, which will be even greater in the Sixth National Educational Plan. It is estimated that when universal primary education in Thailand is accomplished, then the question may be raised as to whether or not more attention should be devoted to the preschool preparation of children relative to the upward expansion of secondary education (Ketudat 1978). With respect to such critical questions as budget allocations, it is important to have as much information as possible about the current status of preschool education and its effects on Thai children.

Research for Planning Preschool Services

In response to the need for research, an evaluative study of preschool programs was conducted by the Office of the National Education Commission, the policy and planning unit for all levels of education. The study is based upon the analysis of the current policy, problems, and issues related to preschool services covered earlier.

Purpose of the Study

The purpose of the study was to evaluate existing preschool programs so that the findings of the study could be used as a basis for decision-making regarding (a) types of preschool experiences that facilitate qualitative improvements in primary education and should be further developed and (b) national preschool education policies and the degree of priority for this type of education.

The study attempted to achieve the following objectives: (a) to compare the effectiveness of preschool experiences of various types, (b) to compare the impact of "no preschool experience" and the different types of preschool experiences on grades 1 and 3 outcomes; and (c) to identify

variables, particularly those related to preschool experiences and that play significant roles in facilitating or inhibiting the achievement of educational goals in grades 1 and 3.

Methodology

The preschool age children in the sample were divided into four groups according to types of experience received before going to primary schools: (a) 2 years in kindergarten (KG), (b) 1 year of preprimary classes in the primary school (PE), (c) 1 year in child development institutions (CD), and (d) at-home control group (HC).

The KG group refers to children who spent 2 years in public or private kindergartens. Most of them were in urban areas. The PE group consists of children who spent 1 year in preprimary classes attached to primary schools operated by the municipalities and the National Primary Education Commission. The CD group consists of children with 1 year of experience in child development centres and child nutrition centres, etc. The HC group consists of children without preschool experience. These children lived in the districts where the preschool centres in the sample corresponding to the three other groups were situated.

The effectiveness of the various types of preschool experiences were evaluated: (a) through the performance of children in preschool centres after having been exposed to the preschool experiences for approximately 1 year, and (b) through the grade 1 and grade 3 performance (affective, cognitive, motor) of children who had been exposed to different types of preschool experiences.

For all groups involved in this project, various measures of readiness, cognitive and noncognitive achievement, socioeconomic background, quality of services, child and student characteristics, social context, and so on, were applied at the end of regular schooling.

The comparison of the readiness and performance of these four groups was based on an analysis of the effects of the independent variables such as geographic location of the centres or schools, SES, and so on. The key variable of interest is, of course, the type of preschool experience and its relative impact.

The Pretest Post-test Control Group Design was employed. The subjects were randomly selected. The types of experiences were considered as well as the treatment, effectiveness, and cognitive and noncognitive achievement as the measures of the outcome at the end of the school year.

To analyze the factors that appear to be most important in explaining child readiness, grade 1 and grade 3 performance and factor and path analyses were utilized. The comparison was of the four groups with reference to the independent variables mentioned earlier. It will be interesting to see if preschool effects diminish significantly over time.

With respect to in-depth qualitative analyses, the studies will focus on the process of preschool education, i.e., classroom interaction analysis and social behaviour in the young child.

Upon completion of the study, a curriculum and strategies for disadvantaged children will be designed to improve the cognitive, affective, and motor development of the children. This second phase of the study will also include the development of other subsystems related to the improvement of the efficiency, effectiveness, and impact of preschool programs. These include, for example, the training of personnel and the monitoring and evaluation of learning experiences.

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Early Childhood Education and Preschool Intervention: Experiences in the World and in Turkey

Cigdem Kagitcibasi[1]

This paper deals with two different but related topics. In the first part, problems of evaluation and problems of conceptualization regarding preschool intervention programs are discussed. Thus, in this theoretical part an attempt is made to understand how far research on preschool education has gone.

The second part of the paper deals with the situation in Turkey and presents the "Early Childhood Development and Education Project." The project derives from the basic premise that a comprehensive approach to preschool education is needed, incorporating the child's immediate social environment, and that preschool education with such an approach constitutes a supportive environment for the overall development of the child. These views fit with some of the basic arguments presented in the first part of the paper.

Problems of Evaluation

Since the beginning of the wave of preschool research and development 2 decades ago, literally hundreds of studies have been conducted in many parts of the world and especially in the United States. Numerous attempts have been made at describing, categorizing, and evaluating preschool programs and studies (Blackstone 1973; Grawe 1979; Hunt 1974; Katz 1977; Pollitt 1978; Smilansky 1979). Preschool intervention has aroused much debate. On the one hand, it has been claimed that programs "can not compensate for society" (Bernstein 1970) and that they are "a lost cause" (Eysenck 1969), on the other hand, it is contended that "such judgements overstate the case against compensatory education" (Chazan and Williams 1978).

The controversy has revolved around the core question of whether or not preschool intervention *works*. The answers to this question vary greatly, and there appears to be less than a consensus about the criteria for deciding when a program works.

Programs that involve the parents and the family and have a community-integrating comprehensive approach are more successful than programs that involve only parent education or that only work with children away from home. Short-term programs are not as effective as follow-through programs. Comprehensive longitudinal fostering programs can produce sustained results. "Traditional" preschools produce very limited change in intelligence quotient (IQ). Generally, children who originally score lower in IQ tests demonstrate more change as a result of intervention. Trends in IQ changes seem to be similar for different ethnic groups and geographic localities (in the urbanized, technologically advanced societies).

Some of the issues in the evaluation of intervention programs are clearly of a methodological nature. Among these are the dependence on IQ measurement as the evaluation tool, the vague criteria for success, and the short time span after the completion of the program, which does not allow any possible "delayed effects" to be identified. Thus, the inadequate design of the evaluation studies and the inappropriate research tools and measurement instruments might be responsible, to some extent, for the reported failures. Zimiles (1977), for example, notes a decline in the reliability and validity of assessment measures and complains that process evaluation has not truly replaced product evaluation. It is, therefore, not always possible to know whether a negative evaluation implies the failure of the program or the weakness of the evaluation process itself.

[1]Department of Social Sciences, Bogazici University, P.K. Bebek, Istanbul, Turkey.

Problems of Conceptualization

Many of the issues mentioned above relating to evaluation and even to methodology stem, at least partially, from certain problems of conceptualization. These problems appear to be inherent to both intervention programs and to evaluation studies.

Unidimensional Conceptualization of Development

One of the first problems is a unidimensional conceptualization of development, namely, cognitive. Cognitive development is stressed often at the expense of other dimensions of growth. This emphasis derives, on the one hand, from an implicit assumption of the efficacy of education in promoting equality, and, on the other hand, of "the availability of what have been thought to be appropriate methods for measuring intelligence and achievement as educational outputs" (Blackstone 1973). Even though there has been some shift of emphasis from more narrow behaviouristic and cognitive approaches to more comprehensive ones (Franklin and Biber 1977; Zimiles 1977), the bulk of evidence on the gains (or lack of gains) from compensatory education refers to intellectual development.

The development in this one dimension, furthermore, is assessed mainly in terms of IQ scores, based on traditional intelligence testing. The gains in IQ vary widely from about five points (Deutsch et al. 1974; Gray 1974) up to 20–29 points (Heber 1972, Smilansky 1964).

With exclusive dependence on IQ upgrading as the success criterion, findings of small gains and even regressions of IQ after the first year (Deutsch et al. 1967, 1974; Gray and Klaus 1970; Hodges et al. 1967; Smilansky 1964) raise doubts about the value of preschool intervention. Yet, certain statistical artifacts such as regression toward the mean[2] in repeated testing and ceiling effects[3] may account for these findings, at least partially. Thus, even if IQ gains are used as the sole criterion of success, the available evidence would preclude an indiscriminate conclusion of failure. Furthermore, exclusive dependence on IQ gains diverts attention from other developmental gains preschool intervention programs might provide.

Cognitive development up to the child's full potential is, obviously, a most important goal of preschool intervention. Yet, cognitive development is but one aspect of total human development; it cannot be treated in isolation from this totality. There needs to be a recognition of the interdependence of the different aspects of the total individual. This is not realized by using IQ measurement alone to test the success of the programs.

There is widespread concern that IQ gains disappear after the first year of intervention, or after the child leaves the program, by the end of the second grade (Deutsch et al. 1974; Smilansky 1979; Weikart 1967). One possible explanation might be that initial IQ gains are achieved with exposure to a "directive cognitive" approach (Smilansky 1979). However, as this cognitive development is not supported by a corresponding growth of the child's self-confidence, independence, and initiative, it will not be self-sustaining after the completion of the program. It is probable that the failure of some intervention programs in producing lasting IQ gains or cognitive development is owing, ironically, to the exclusive concern of these programs with cognitive growth.

Treating the Child Out of Context

A second related problem of conceptualization is abstracting the child from his or her environment and treating him or her in isolation. Taking the child out of context inevitably limits what can be done in an intervention program. A great deal of evidence about intervention programs obtained within the last 2 decades points to the importance of supporting the immediate social environment of the child (Gordon 1975; Gray and Klaus 1970; Levenstein 1976; Ortar 1973; Smilansky 1979; Weikart 1970). Specifically, helping the mother build a new awareness of herself as educator and of the child's cognitive needs and promoting cognitively oriented, affectively based mother–child communication appear to be key processes. Home-based programs as well as centre-based programs of parental involvement or their combination are found to be quite effective (Johnson et al. 1974; Smilansky 1979).

With home involvement there may be also secondary gains in the form of vertical diffusion to younger siblings and even horizontal diffusion to neighbours (as evidenced by Gray and noted

[2] In repeated testing, scores approach the overall population mean and, thus, are lower than the initially obtained high values (as noted by Campbell and Erlbacher (1970) and reported by Smilansky (1979:8).

[3] Given the fact that the inherent intellectual potential is not unlimited, there is a ceiling to the IQ gains that can be achieved. If upgrading is accelerated with the first exposure to the enrichment program in the first year, later gains are inevitably going to be more limited.

by Smilansky 1979). Such a comprehensive approach capitalizing on the child-family-community interaction would be beneficial not only to the child but also to the family and the community, because it could be an impetus for change in various spheres of activity promoting efficacy, competence, awareness, and skills, which, in turn, would provide the child with a more stimulating, nourishing environment.

Such an approach would also avoid creating two different and possibly incompatible environments for the child — the preschool and the home community environments — so that when the former ends, the child could fall back on the latter for continued and similar support. This again necessitates a comprehensive conceptualization of the intervention program.

Baselines

A third problem of conceptualization refers to baselines. Evaluations of preschool intervention programs, whose main criticism is the limited upgrading of the IQ, are based on evidence from the developed countries. In view of this, questions such as the level of deprivation, the meaning of being disadvantaged, and the definition of the program goals come to the fore and are reflected in the issue of baselines.

The disadvantaged populations in developed countries, even though very much deprived relative to the society at large, may not be considered disadvantaged when compared with the disadvantaged populations in developing countries. Thus, judgments of "failure" about intervention programs in the former cannot be generalized to the latter.

The disadvantaged children in developed countries, although much worse off than the middle-class children, still benefit from some of the basic technological achievements of the society at large. They usually have some exposure to radio and television, to paper and pencil, maybe toys, pictures, and even some books and magazines. These are all important stimuli for cognitive-perceptual development, to which the disadvantaged children in the developing countries have less exposure. From which initial level of intellectual competence the children are starting their participation in an intervention program may be an important consideration for determining how much gain could be expected. This may differ according to the level of deprivation characteristic of the populations concerned.

Indeed, there is evidence, as noted earlier, that children who originally score lower in IQ tests demonstrate more change as a result of intervention. This is probably because children from more deprived environments perform well below their potential and when exposed to intellectual fostering make up the deficiency. In other words, greater gains are possible with lower baselines of performance.

Better conceptualization and specification is, therefore, needed of the children's level of competence and the goals of the program in terms of realistically possible gains for every intervention program. Given the wide variations among the disadvantaged areas and populations, generalizing is not recommended.

Preschool Education in Turkey

Turkey is a country where a standardized widespread system of preschool education does not exist. There is also a shortage of child-care institutions for deprived children and those in need of protection. The census figures of 1975 indicate a population of about 7.5 million (today estimated to be 8 million) children 0–6 years old. Of this population, more than half are in the 3–6 year old age group.

Fewer than 50 000 children alone benefit from any sort of institutional preschool services, child-care services, and the like (6 in 1000). These figures indicate the seriousness of the problem at hand. The small number of service institutions available belong to various public organizations, mainly the ministries of education and health, and to private organizations and individuals.

The Ministry of Education provides services to the 3–6 year old age group and the Ministry of Health serves all children 0–6 years old, as do the Union for Child Welfare and other charitable child-care associations. Underprivileged children have priority to services, especially the care centres of the Ministry of Health and charitable associations. However, as apparent from the numbers, the available services fall far short of reaching the children who need them.

There are estimated to be 200 000 children (0–6 years old) who need special protection (e.g., children from broken homes, alcoholism or crime at home, single parent-working mother, low-income, etc.). Only 7000 among them are cared for in the Ministry of Health and the Union for Child Welfare centres. Most of these care centres are in urban areas.

Moreover, the care provided is mainly custodial, and very little education is available. Education is more conscientiously pursued in the preschools belonging to the Ministry of Education, universities, private groups, and individuals, but

these institutions do not usually serve the children from deprived and impoverished areas. Furthermore, the education they offer is often that of the traditional preschool and might even be considered a downward extention of primary school.

Primary school education (5 years) is compulsory in Turkey. However, some remote villages still do not have schools, although their numbers are decreasing. Together with the lack of services in certain underdeveloped areas, the inability or unwillingness to send children, especially girls, to school add to the problem. For example, 1975 census figures show that of the total 2 079 912 11-13 year-old children in Turkey, 491 127 are illiterate, the majority being girls (315 217 compared with 175 910 boys). Even though this is not very high relative to the total number of children up to age 13 who have had schooling (4 990 054), it is still a substantial number indicating less than universal primary school attendance.

Early Childhood Development and Education Project in Turkey

The Problem

A widespread need for preschool education in Turkey was keenly felt by a group of researchers, child development experts, and practitioners of early childhood education who came together in 1978 with the common concern of studying the state of early childhood development and education in Turkey, developing working models, and preparing materials for the launching of widespread programs. The group started working in close connection with the Turkish Ministry of Education and the project was completed in 1980.[4]

The allocation of efforts and scarce resources to early education in a country where universal primary school education has not yet been achieved needs to be justified. In such a context, preschool education is considered by many to be a luxury. The contention here is that especially in a country like Turkey, when compared with more advanced countries, far from being a luxury, preschool education is a necessity.

First, female literacy and education are still low in Turkey,[5] especially in poor areas where mothers often lack the skills obtained through formal education that would contribute to the intellectual development of their children. The same is true for other aspects of child rearing such as nutrition and protection from accidents, disease, and death.[6] When preschool education is conceptualized and organized as a sum total of education for the young child *plus* parent education and as a support system to the child *and* the family, the inadequacies of parental care owing to a lack of education and inadequate economic means can be compensated for to some extent.

Second, children growing up in poor environmental conditions, especially in remote areas, often lack the necessary intellectual stimulation in early years. They are, thus, disadvantaged from the start when compared with middle-class children — the result being lower levels of achievement in the formal educational system and greater numbers of school dropouts. This results in a great loss of labour that cannot be afforded economically or socially much less at the individual level.

Third, with the advent of industrialization and the introduction of technology into agriculture since the 1950s, there has been a great movement of the population from the rural to the urban areas in Turkey and even into Europe. So much so that in 1950 while the country was only about 20% urban today it is 47% urban. Thus, the picture is no longer that of a predominantly agrarian society where the children are cared for within the extended family with the mother present or being replaced by relatives living nearby. Quite the contrary, with the migration of small family units and the ever-increasing participation of women in the labour market, in the urban context sometimes there is nobody to care for the child.

Thus, the problem is urgent and of immense proportions. It is also recognized as such, and early child-care and education services are being launched by governmental and nongovernmental

[4]The project staff included the following persons: Project Directors — Dr Cigdem Kagitcibasi (Bogazici University) and Dr Selcuk Ozgediz (World Bank, formerly at Bogazici University, co-director in the first phase); Project Team — Dr Güler Okman (Bogazici University), Dr Gündüz Vassaf (Bogazici University), Dr Ayhan Aksu (Bogazici University, partial work), Dr Güney LeCompte (formerly Hacettepe University), Dr E. Kisisel (Hacettepe University), Dr Sema Kut (Hacettepe University), Dr Serap Maktav Yildirim (Ankara University), Ms Zafer Sukan (American Academy for Girls), Ms Sema Uloay (Child Welfare Organization), Mr Ertan Kahramanoglu (School of Social Work), and Mr Tengiz Alper (architect).

[5]One nation wide study carried out in 1975 (Kagitcibasi 1981) found 46% illiteracy among women (compared with 13% among men).

[6]Child mortality is still very high in Turkey, higher than would be expected on the basis of the country's level of development.

organizations. Yet, launching services overnight without the necessary preparation is neither possible nor advisable. It is here that the "Early Childhood Development and Education Project in Turkey" becomes relevant.

Scope

The basic goal of the project is to contribute to the healthy development and education of the preschool-age child in Turkey. Toward this goal, reaching the preschool teacher and the parents and training them and sensitizing them to the needs of the child assume importance.

The issues discussed in the previous section under Problems of Conceptualization point to the need for a multidimensional conceptualization of child development for dealing with the child within his or her immediate sociocultural environment and for considering the baselines of performance. These issues are highly relevant for the current situation in Turkey. A comprehensive approach is needed to child welfare and education that also incorporates services to the family and community. Women's nonformal education assumes great importance in this context. Preschool services, conceptualized in such a comprehensive fashion, can provide a supportive environment for the overall development of the child.

The project, accordingly, has such a wide scope in its comprehensive approach to the problem. The preschool is considered *within* the sociocultural context of the community, and its relations with the family and the community are emphasized. Nonformal parent education, especially for the mother, is an inherent part of the project, conceptualized as a basic support both to the child and to the parent. Curricula and materials for both the preschool and for teacher training are coordinated for the overall development of the child.

The project undertook to deal thoroughly with the preschool education issue in Turkey by examining three main interrelated aspects. One of these consisted of studying and evaluating the present situation in the country and making preliminary recommendations for change. The second aspect of the study was conceptualization and model building regarding early childhood education in Turkey. Detailed recommendations, plans, and proposals were prepared regarding teacher training and harmonizing preschool education with primary school education. The third aspect was the production of materials for use in preschools, teacher training, and parent education.

The project progressed through two phases. The materials developed in the first phase were revised on the basis of their application in three different teacher-training programs as well as in response to numerous recommendations provided by people interested and involved in education in Turkey to whom the first versions of the various books and reports were sent. This was done because feedback coming from practitioners in the field, especially teachers, was considered important. It allowed the researchers to benefit from their experiences. Teacher training was undertaken by the project staff in collaboration with the Ministry of Education.

The activities and numerous outputs of the Project can be grouped under three general headings: research–evaluation, conceptualization and proposals, and material development.

Research – evaluation: A number of research reports were prepared as groundwork for describing and analyzing the present situation of preschool education in Turkey and general recommendations were made for improving it. The reports were designed also to understand the place of the child in society and to draw attention to the Turkish sociocultural context in which new programs could be started. The four reports are the following:

(a) The first study presents a detailed account of the existing preschool services and the system of education for preschool teachers in Turkey. It includes all the relevant statistics, province by province; evaluates the system and quality of preschool education; and makes recommendations to meet the needs. Both the quantitative and the qualitative inadequacies of early education services are noted together with their uneven distribution in the country.

(b) The second study surveys research results pertaining to the development and care of the child within the family. The aim is to picture the context in which natural development takes place. Relevant research findings are used (Basaran 1974; Kagitcibasi 1977, 1978, 1979; Le Compte et al. 1978; Oztürk 1969) to describe child socialization and development within the traditional family and community. It is noted that the predominantly economic value attributed to children by the parents, their material expectations from them, and the general child-rearing techniques create a social and psychological environment not conducive to the development of initiative, independence, and self-confidence in children.

(c) The third study reports the existing laws related to children and makes recommendations

for the establishment of a new judicial framework to allow for a well-integrated approach to early childhood care and education. In the second phase of the project comprehensive draft legislation was prepared, deriving from this report: "Draft Legislation Respecting the Care, Development and Education of Preschool Age Children."

(d) In the fourth study research and publications related to children in Turkey are compiled and a list of children's readers is prepared. Regarding the latter, it is noted that in recent years both the quantity and the quality of reading material for children have increased although material is still not adequate and not evenly distributed over different regions of the country.

All this groundwork has led to the understanding that programs or models developed elsewhere can not be directly applied as they would not quite fit the local needs and conditions. Rather, there is a need to develop our own models, based on experiences and findings of research and applications carried out and used abroad, but adapted to our own cultural/social economic framework and meeting our own needs.

Conceptualization and proposals: The following five studies fall under this heading:

(a) A report was prepared providing flexible models of application for early child care and education. These models are designed to fit the diverse needs of urban and rural communities with different levels of development. The following points were emphasized: (a) priority is given to serving the disadvantaged children (those in remote rural areas, from poor families, whose mothers are working, and whose home environment is not conducive to healthy development), (b) full-year programs that can be coordinated with parents' work conditions are given priority, (c) inexpensive programs and materials are recommended that optimally utilize the existing resources (buildings, grounds, home-produced materials, etc.), and (d) community participation and cooperation is aimed as much as possible, both to instill responsibility, collaboration and a sense of belonging in the community and as a means of educating the parents by getting them involved.

(b) The second study dwells on the principles of early education programs and has led to the development of a full-fledged preschool education program: "Proposal for Preschool Education Program." This detailed proposal is in line with the "Goals of Turkish National Education"[7] and is also compatible with primary school programs and curricula. Continuity and integration between preschool and primary school is sought with relation to basic education, program goals and principles, methods and techniques, curricula, and planning and application.

(c) The third study is the "Proposal for the Training of Preschool Teachers" and includes the following: philosophy and goals of preschool education and of preschool teacher training, detailed curriculum and program recommendations for university-level preschool teacher training and for high-school-level teacher's aid training, course coordination, and student evaluation criteria.

In designing the programs for both the preschool, (b) above, and the preschool teacher training, (c) above, the main contention is that "the multidimensional development of the child" and "learning to learn" can materialize in a preschool education context where the teacher is not a symbol of authority but rather where there is mutual communication and interaction between the child and the teacher, based on love, trust, and respect. The goal of the child's overall development is conceptualized in four interrelated dimensions: (a) development of self (confidence, self-control, independence, positive self-evaluation, and sex role learning), (b) cognitive development (creativity, problem solving, productivity, and language development), (c) physical development (learning about the body and bodily hygiene and muscle development), and (d) social-emotional development (love, positive interpersonal relationships and social responsibility, learning cultural and humanitarian values, and learning about the environment).

(d) The fourth study outlines the basic principles of parent education through the mass media as one aspect of a comprehensive approach to early childhood development and education. The topics emphasized are: expectations from children (including sex role expectations), development of internal control by the child (including moral development and child discipline), and cognitive development of the child.

(e) Finally, the fifth study is presented as a report on "Physical Planning and Design Criteria" for preschool education. The emphasis here is the conceptualization of the preschool physical environment in terms of the preschool-age child's characteristics and needs. In both urban and rural areas child-school-family interrelationships are taken into consideration in physical planning, which should have a positive effect on these relationships. Details, drawings, designs, and plans are included as examples.

[7] Turkish Ministry of Education Publication.

Material Development

In view of the research and evaluation of the present situation in Turkey and in line with the conceptualizations of the Project, a number of basic educational materials were produced. These materials consisted of one report and five books.

The report presents in detail the designs, with measurements, of educational materials, toys, and tools for use in preschools and a guide for the low-cost production of these materials with local means. The materials needed for both indoor and outdoor activities in the preschool are included.

The five books for publication are prepared with multiple purposes in mind. Specifically, they are designed first of all for use as textbooks in teacher-training programs, both through formal schooling and on-the-job training. Second, they are for use as handbooks and source books by the teachers in the preschools themselves. Third, they are educational materials for the interested public in general and especially for the parents. In fact, one of the books is designed specifically for parents and others caring for young children. Because they are designed for widespread use, all the books are written in very simple language with plenty of examples and pictures so that a high level of education is not necessary for their appropriate use.

The first handbook is "Child Development" between 0 and 6 years of age and presents the basic principles of the multifaceted process of development. Specifically, detailed descriptions are given of physical and motor development, cognitive development (including perception, concept formation, language, memory, and causal reasoning), personality development, and social learning (including development of the self-concept and moral, emotional, and social development).

The second handbook is "Yearly Program" and it presents a detailed yearly curriculum for preschool education in Turkey. Examples of daily, weekly, and monthly programs are given within the context of the Turkish reality as a guide for the practitioner. The book consists of two parts. The first part, "Preschool Education" includes the goals and principles of preschool education, the characteristics of the preschool as a physical environment, and the preschool teacher -- his or her characteristics and relationship to the child. The second part is "Yearly Curriculum in Preschools" and includes principles as well as detailed descriptions of daily, weekly, and yearly programs. Examples of themes and topics and their application are provided.

The third handbook is "Preschool Activities" and it contains creative activities for the early education of children with a detailed presentation of the preparation of materials, the use of toys and other tools, and art and music in the preschool. All the activities are designed to promote the overall development of the child, and they include the following: games and materials for games, creative expression and art activities, music activities, dramatization, language development and children's literature activities, nature and science activities, open-air and playroom bodily activities, excursions, and free and structured table games and educational activities.

The fourth handbook is "Cognitive Activities" and contains mainly activities and exercises designed to stimulate cognitive development, concept formation, the use of the symbolic systems of language and numbers, logical thinking, and problem solving. It includes specific exercises in perception (visual, auditory, tactual, olfactory, and gustatory discrimination), symbolic expression (mathematics and language development), concept formation (relational concepts, grouping, and ranking), and problem solving (definition, means-ends relations, solution, and evaluation).

Finally, the fifth handbook is the first parent education book developed in Turkey, called "Your Child and You." It is designed to reach a large audience of parents with little education to educate and sensitize them to both the physical and the psychological needs of their children. It has two parts. The first part is "Approaching the Child as a Person" and deals with the basics of personality development, development of intelligence, healthy development of the self in the family context, and how to approach the child. The second part is "Development, Nutrition and Health" and includes detailed information on each of these areas.

All of these books share the common aim of fostering the overall development of the child. Thus, for example, in the presentation of preschool activities and cognitive exercises, and so on, the purpose of the activity is clearly explained. In this way, these activities are not treated as tasks to keep children busy but are, rather, considered as educational means toward the cognitive, perceptual, social, etc. development of the child. Accordingly, the preschool teacher and the parent will know what function each activity serves for development.

Obviously, this project is a first attempt that will need to be tried, revised, and developed

through experience. The resources are limited, and all the work has aimed at programs and materials that are not costly and that can be prepared with local means. However, the universal supply of services is still a long way into the future. Thus, this work can be regarded as an attempt at a new preschool provision in a society that greatly needs this provision. It involves the close cooperation of various formal and informal institutions with individuals, children, and adults. Foremost in this context is the parent-child-teacher triad and the conceptualization of the preschool as a supportive environment for the overall development of the child.

Preparation of a research design is now under way to test some of the ideas put forward by the Project. The prospective research will study the characteristics and effects of comprehensive preschool education in Turkey with a view to promoting the overall development of the child based on the following principles: (a) recognition of the multidimensional nature of child development; (b) recognition of individual differences and design modification of programs to fit the needs of individual children; (c) provision of opportunities for child-initiated and individual activities in addition to teacher-initiated and group activities, provision of a stimulating environment conducive to the development of curiosity, creativity, and learning; and (d) provision of similar support to the child in his or her natural environment, home, and community.

The research will consist of two main studies, one utilizing an experimental design and the other consisting of case studies and descriptive analysis based on in-depth interviewing and retrospective data. The experimental study will involve comparisons, over time, of different types of preschool programs and mother training in terms of their contributions to the overall development and performance of children. Formal measurement and observations will be used.

The case study will focus on adolescents who have gone through a comprehensive preschool education program. In-depth interviewing of adolescents and their mothers as well as other information gathered about them will be analyzed in comparison with baselines for the area.

Both studies will be carried out in low-income urban areas of Istanbul. They will also involve analysis of family variables such as values attributed to the child by the parents and child rearing attitudes. The overall research will, thus, study the family-child-school interactions through time focusing on early childhood development and education.

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Sociocultural Correlations Involved in the Cognitive and Physical Development of Children from Urban Guatemala

Yetilú de Baessa[1]

Population and Education in Guatemala

The population of Guatemala is about 7 million, and more than 1 million people live in Guatemala City (Wilke 1978). The estimated annual rate of population growth in the capital is 7%; infant mortality runs at about 7% in all of Guatemala (Arias 1974). The population is divided into two major groups: Indians or natives, who account for 54% of the total and *ladinos*, i.e., Indians in the process of urbanization, who make up the other 46%. Forty-four percent of the total population is under 15 years of age. The national education system consists of the preprimary, primary, secondary, and postsecondary levels.

Preprimary Level

Preschoolers: Guatemalan educational law states (section 31, subsection c) that, "the educational system must include preschools for small children."

In 1980, preschools in Guatemala handled 48 869 children between the ages of 3 and 7 years old or 12% of the preschool population. In Guatemala City, 14 362 children attended public preschools and 13 774 attended private schools (Educational Research and Planning Unit, USIPE, Documentation and Statistics Division 1980).

Preschool programs include the following subject areas: motor skills, perception, sensory skills, and language skills, which are specific skills that satisfy children's natural curiosity. Activities generally take the form of games, with the children grouped by age and level of intellectual development.

Preschool teachers in Guatemala now are specialized (secondary education with 1 year of specialization). They keep a file on the children that contains information on observations, personal habits, and weekly and monthly cards (on which the children's overall condition and specific aptitudes and habits are noted).

Nevertheless, much remains to be done in terms of both preventive and curative health care, dental care, and nutrition for preschool children. The main problem is that, so far, only a fraction of preschool-age children have been covered by the program. This is especially true in rural areas.

Spanish-language program: The Rural Social and Education Division is in charge of the Spanish Language Program for preschool education. The aim of the program is to teach Spanish to monolingual communities (quiché, cakchiquel, mam, and others), which account for a total of 50 268 children, ranging from 6 to 16 years old.

The Program is taught by specially trained bilingual teaching staff. Once a child has completed the Spanish program, he or she may go into the first grade; nevertheless, in many instances, children have still not mastered Spanish after completing the program and there is no doubt that this adversely affects their performance at school and increases dropout rates.

Primary Level

Under Guatemalan law, children must attend primary school; the government must provide this education free of charge. Primary education has six grades of 1 year each. The regulation age for entering first grade is 7.

Primary school teachers are trained at the secondary level, where the course of study has not undergone any change in recent years. This directly contrasts with the specialized training and continuous "refresher" courses taken by preprimary school teachers.

[1]Research Institute, Universidad del Valle de Gautemala, Apartado Postal No. 82, Guatemala.

Grades 1–6 in primary school study Spanish, mathematics, social studies, natural science, art, industrial arts, health and safety, and agriculture.

The primary education system in Guatemala is divided into two sections: urban and rural. In both sections, children enrolled in public schools attend one of three daily sessions: morning, afternoon, or evening. In 1980, 803 404 students attended primary school; 85% of the total entered each grade for the first time and 15% repeated.

In Guatemala, the average level of schooling scarcely reaches third grade. This is very close to the level defined as functional illiteracy; also there is a 54% illiteracy rate among 15-year-olds. Overall school attendance is low because the rural population often has no access to schools, but in urban areas attendance often reaches 75–80% for the first three grades (up to 10 years of age). However, it drops sharply after the third grade and in secondary school can be lower than 25%.

Another problem is educational quality and the degree to which the programs meet the needs of the children as they move through the system or join the work force. It is doubtful that the schools are providing students with the economic, social, and cultural skills they need.

In addition, owing to the way in which subjects have been divided up according to grades, students leaving school in the first, second, third, or fourth grades have received a very partial, incomplete education. They soon forget what they did learn and enter the ranks of the functionally illiterate.

There are other problems related to assimilating the native population into the national education system, aggravated by the linguistic diversity of the Indian population. The government has undertaken a 4-year National Literacy Campaign and hopes to have a total of 115 000 people reading and writing by the end of the first phase (6 months).

Description of the Study

Aside from the shortcomings stemming from the school system itself, children from low socioeconomic groups score lower at school than their middle- and upper-class counterparts (MacVean 1978). Studies done in Guatemala show significant differences in both the mental and physical development of 7-year-olds from different social classes (Bogin and MacVean 1978). Cravioto et al. (1966) reported that the height deficiencies found in low-income children are related to differences in sensory abilities.

Whiteman and Deutsch (1965) established the importance of delving further into the relation between the family environment of disadvantaged children and cognitive and learning skills and how these skills affect academic performance. According to their hypothesis, cognitive and linguistic factors are crucial variables that come into play in the impact of the environment on the one hand and academic success on the other. They developed a Deprivation Index to help discover those factors related to the disadvantageous environment in which these children live. The factors included in the Index are very similar to the overall areas found in Dr Caldwell's HOME Inventory.

Ramey et al. (1975) studied the correlation between the family environment of children thought to be susceptible to developmental backwardness and of children from the general population. Ramey used the HOME Inventory to find out about the children's home environments and found significant differences (1%) in all of the factors measured by the Inventory.

In the present study, we are particularly interested in identifying the environmental factors that enable a child to make progress, even when faced with many adverse factors, and in finding out which environmental factors are most detrimental to children. On the basis of this information, action can be taken to promote those elements that can help children and alter those that harm them.

This study is designed to explore the cognitive and physical development of Guatemalan children from a marginal community during their late preschool and early primary school years. The study tries to determine the relationship between cognitive deficiencies appearing during these years and the environment in which the child lives and the possible effects of these deficiencies on later academic achievement.

Guatemala, as with many other developing countries, is concerned about the problem faced by children from poor families when they enter primary school who are already at a disadvantage compared with middle- and upper-class children.

This study complements the interest of individual researchers and research institutions. The Universidad del Valle of Guatemala began a longitudinal study in 1953 that includes academic achievement and physical development of lower-, middle- and upper-class children attending school. The study will provide information on preschoolers entering first grade.

It will also complement longitudinal studies conducted by the Instituto de Nutrición de Centro América y Panamá (INCAP — the Nutrition

Institute of Central America and Panama) on the nutritional status and cognitive development of children from rural areas. For years INCAP has been researching the psychological development of preschool and school-age children and has found a strong relationship between low school performance and socioeconomic status, which includes illiteracy, malnutrition, disease, overcrowding, and lack of stimulation at home.

The study aims to have a pluralistic approach, taking into consideration all of the factors influencing child development as well as the context in which the child evolves and to compare INCAP's findings in rural areas with those pertaining to marginal urban settings.

Research Objectives

The long-term objectives of this study are to find out the extent of cognitive deficiencies among low-income Guatemalan children when they enter school, to determine the development patterns underlying these deficiencies, to identify the environmental characteristics of the children's environment that affect these patterns significantly, and to investigate the impact of the cognitive development of preschoolers on academic performance.

The specific objectives of the study are: (a) on the basis of a sample, to measure the cognitive development of urban preschoolers from low-income families and to establish the stability of these measurements and to compare these findings with a sample of middle-class children; (b) to study the cognitive development measurements taken from the different samples through early childhood and school and the relationship between cognitive ability and academic achievement measurements; (c) to identify features of each child's individual environment that are significantly related to his or her cognitive development and academic achievement; (d) to study the relationship between physical growth inferred from morbidity and nutritional factors and cognitive development; (e) to analyze to what extent the present educational system takes into account the special needs of children who come from different environments; (f) to train Guatemalan social scientists to do research on child development and its relationship to child-raising practices and other environmental factors and academic achievement; (g) to communicate the results of the study to the Ministry of Education and other similar agencies so that they may use the information gathered in the design, management, and development of educational programs; and (h) to design the study and the measurements used in such a way that comparisons may be made with studies done in other developing countries on child development and educational reform.

The First Year

The first year of this project extended from 1 May 1980 through to 30 April 1981. The three specific objectives for the first year were: (a) to identify the groups of population appropriate for this study, design sampling methods, and set up a schedule for data gathering; (b) to design instruments to measure the significant variables related to physical and cognitive development and the environment in analyzable units; and (c) to test all instruments for reliability and validity and to establish quality control techniques for data gathering.

Several communities were examined as part of the first objective (this process is explained in detail in the section on the socioeconomic questionnaire), and two censuses were taken — one in Colonia El Amparo and the other in Colonia La Ruedita. After analyzing the census data, the decision was made to do the study in Colonia El Amparo for the following reasons: accessibility, community cooperation, enough children under age 8, and the community is a good example of the communities planned by the government to house the thousands of poor people left homeless after the 1976 earthquake.

Colonia El Amparo is located 4 km from the peripheral strip that extends around Guatemala City. The area was divided into lots and sold at the beginning of 1980 by the Banco Nacional de la Vivienda (BANVI — National Housing Bank) in conjunction with the National Reconstruction Committee, a government agency created after the 1976 earthquake.

Each block was divided into 20 lots of varying size and location, which were sold to people on the basis of income. The lots are paid off in monthly installments of from 12.12 to 28.34 quetzals a month (1 quetzal = US$1) over a period of 20 years. The lots were developed, to a certain extent, with a shower, a toilet, and a water tap. Each of the lot owners built their own homes according to their means. Most homes are built of cardboard, wood, sheet metal, and plastic.

The census taken in El Amparo showed that there are 1974 families. Monthly income ranges from Q.60 to Q.600, with the average income being Q.160.00. There were 1898 children born between 1974 and 1980. Thus, there is an average of 270 children for 12 12-month groups. This figure is more than adequate for the purposes of the sample.

The second objective set for the first year was to design or adapt the instruments needed to measure the study variables. This work was carried out as planned, and the instruments will be described in detail later.

As for the last objective, we are completing the analysis of standardized data, and during March and April another test-retest will be done on all of the definitive instruments to establish team reliability. The teams went into the field in May, which marked the beginning of the study itself.

Study Methodology

Design: The study is basically longitudinal although one transversal component has been included and will be described later. The longitudinal component will be made up of three groups taken from Colonia El Amparo. Each person in each group will be examined once a year for 3 years on his or her birthday (± 1 month).

During the first examination, Groups A, B, and C will include 3-, 5-, and 7-year-olds, respectively. At the end of the study they will be 5, 7, and 9 years old. In this way, each group will overlap in age with the next-oldest one. This overlapping at the ages of 5 and 7 makes it possible to cover the entire period of 3–9 years of age; and the overlapping points (5 and 7) will enable us to analyze the effects of the groups.

The anthropometric, environmental, and psychological measurements will be taken for each child in the annual longitudinal component. Because children enter the first grade in Guatemala when they are age 7 the 7-year-old group (C) will be measured before starting to have some baseline data. The school year begins in January, so group C will be measured between May and the end of the calendar year during each year of the study. The census indicates there are enough children with the right birthdays living in El Amparo.

The development of children under 3 years old will not be measured because such measurements are not reliable and are poor indicators of future performance.

However, the under 3 group does interest us in terms of environmental conditions and child-raising practices. Therefore, a sample of 80 1-year-olds (group X) will be examined. Measurements will be made of their nutritional condition (anthropometry) and family environment. These children will only be visited once.

During the second and third year of the project, transversal data will be obtained on upper-class children from the same age groups as the children examined in Colonia El Amparo. This sample will be based on the applications for admission to the American School in Guatemala made by the parents. The sample size will be 60 children of each sex and age, and the same instruments will be applied to them. Twenty children of each sex who are 1-year-old will also be measured; they will also be selected on the basis of parents requesting entrance for their children into the American School in Guatemala. These data will not be longitudinal and will be used for comparative purposes with the Colonia data.

Ethnographic Information

Given the importance of the community in home dynamics, the social development of the children, and the attitudes and values of their parents, the Colonia community will be ethnographically described. As it is one of the communities that appeared after the 1976 earthquake, it is quite representative of the lower socioeconomic stratum. These settlements grew spontaneously and are made up of a whole range of people from both the capital city and the countryside.

In general, El Amparo is made up of young nuclear families with small children. It is, then, important to provide them with tools for a better future and upward social mobility.

The Comité de Reconstrucción Nacional (Committee for National Reconstruction) has created a number of colonias in all parts of Guatemala City to help the most needy people. The idea is not only to sponsor housing projects but to offer integral help as well to promote community development in every sense. Health, education, housing, social services, and job training are part of the plans. The training of community leaders has already started with a view to making these communities self-sufficient in 10 years.

To obtain the expected results, these intervention plans and policies must be based on scientific data. It is hoped that this research will contribute to these data and, thus, help the future development of the country.

Selection and Development of Instruments

To describe more fully the first year of the project, the selection of and results obtained by the instruments used will be detailed.

Socioeconomic Questionnaire

To obtain basic socioeconomic data from the community, a questionnaire was designed. It comprised parents' age, schooling and occupation, number of years or months in the city, place of origin, civil status, number of children, number of people living in the same home, and children's school and preschool experience. To obtain additional information besides that regarding income, acquired through the census, a section was included on the type of housing, home appliances, and transportation used. This information was important because a father may, for example, have a relatively high income that he spends almost entirely on alcohol, so that the bare figure of income does not always assure that the family can meet its basic needs. One interesting fact was revealed: almost all families surveyed have a TV set and radio. These media can be used for educational programs with the certainty that they will reach all income levels.

Another important aspect found was that mothers do not think that children are able to learn anything before they are 4 or 5 years old. This belief will have to be changed to make them realize the importance of preschool.

One of the priorities in helping this kind of community is to train the people for jobs. Most of them only have marginal or unskilled jobs.

Finally, the questionnaire showed a certain sense of property that motivates them to pay their monthly installment and to improve their economic condition. After applying the questionnaire in different communities, Colonia El Amparo and Colonia La Ruedita were chosen for the study.

The census revealed that El Amparo would provide a large enough sample to obtain significant results in the study. The same did not hold true for La Ruedita, where we found only 167 families with children under 8 years of age. There was another problem with La Ruedita that would have made it impossible to make this sample the same as the one in El Amparo: most of the children in La Ruedita go to nursery schools before they are 7. These and other logistic considerations resulted in the decision to undertake the project in the Colonia El Amparo using a larger sample of children classified by sex and age (60 boys and 60 girls per group instead of 30, as initially planned).

Home Inventory

The HOME Inventory developed by Dr Betty Caldwell was used to evaluate the environment in which the child and mother-child interaction developed. The inventory was translated and adapted to the Guatemalan environment by project staff.

Other Spanish-speaking countries such as Mexico, Puerto Rico, and Guatemala (in rural areas) had used this questionnaire with good results. This instrument measures various important areas in the psychological development of the child: frequency and stability of contact with adults, degree of vocal development and stimulation, need for gratification, emotional environment, restrictions on motor and exploration behaviour, toys and objects used as toys that can be observed, and features in the home that indicate parental concern for their children's achievement. One inventory applies to children 0–3 years old and another to children 3–6 years old. The inventory is taken in the home while the child is awake and in the presence of the mother or the person who usually cares for the child.

According to previous experience, the HOME Inventory shows clearly the differences between the homes visited. These differences are most evident in regard to appropriate playing materials, organization of the physical environment, and mother-child relationships.

Although in this community, children do not enjoy "formal" toys, HOME has found a range of improvised toys that fulfill the same function as formal toys used to stimulate and develop the abilities of upper- and middle-class children.

Another area that HOME explores very effectively is the emotional relationship and warmth between mother and child, and the father-child relationship, which is very important and taken into account by few instruments.

Cognitive Tests

The WISC and WPPSI tests were chosen to measure the cognitive development of the children. These tests measure various areas of intellectual development such as perception, memory, psychomotor ability, logical reasoning, vocabulary, information, and so on. They are also widely known and used, which, therefore, enable us to compare our results with others. Several changes had to be made in the vocabulary used in the Spanish translation of the tests. Raw scores will be used, because these tests have not been standardized in Guatemala. The WISC test will be used for 7-, 8-, and 9-year-olds; the WPPSI test will be used for 4-, 5-, and 6-year-olds.

Despite the criticism of tests measuring IQ it was decided to use them as a basis for comparing the children and as a means for evaluating their

progress. Furthermore, as Pollitt (1979) suggests, if we face the fact that these children have to enter the school system to be later taken up by a labour system that increasingly demands skilled workers, and the IQ is a good forecast of school achievement, its use in research is justified.

Academic Achievement Test

During the second year of the study it is planned to apply academic achievement tests, reading and writing tests, arithmetic tests, and related readiness tests.

Attitudes Test

To be able to implement any help or intervention program in the community, it is essential to know the attitudes, beliefs, and values of its members. Therefore, we are looking for an instrument appropriate for this purpose. Probably a questionnaire will be used and completed with a case study.

Anthropometry

To obtain data on the nutritional status of the children, we decided to take the following anthropometric measurements: height, weight, circumference of the head, circumference of the arm, and fold of skin of the triceps.

One-year-old children are measured while they are in supine positions. The circumference of the muscle in the upper arm is measured to obtain an approximate measurement of the child's body musculature.

A manual was written on how to take the different anthropometric measurements, and a form was drawn up for recording them.

These measurements will supplement those obtained in the longitudinal study of the Universidad del Valle de Guatemala and will serve as a basis, because that study starts measurements at 7 years of age.

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Summary and Conclusions

The research findings on the effects of early psychological stimulation on child development indicate that, in the short term, this type of intervention promotes some aspects of the child's development. However, these effects have not proven to be stable as time goes on. There is not sufficient evidence that the positive short-term effects are maintained once the intervention is ended, and the child is once more exposed to his or her natural environment.

These findings strengthen the assertion, already accepted among researchers in the child development area, that the process of child development is plastic and vulnerable to environmental conditions. Children, therefore, respond considerably to environmental conditions favourable to their development but, at the same time, this process is halted or deteriorates under deficient environmental conditions.

At the same time, these findings are also a warning cry against the implementation of childhood programs based on preliminary or partial single-focus interventions that do not totally encompass the problems that affect all children's development and that can produce the false impression of actively promoting only the development of children from the poor population sector.

The studies on the effects of preschool education on the child's learning ability upon entrance to school indicate that preschool education would seem to facilitate the development of those skills associated with the learning of reading and writing. Nevertheless, these studies also show that attendance at preschool education programs is not able to eliminate learning differences between children of different socioeconomic conditions. Schoolchildren from poor families present lower reading and writing skill levels than do children of the middle class, regardless of whether or not they have attended preschool education programs.

The findings of the study by Wiekart, in the United States, indicate that preschool education received by children during the early stages of their development has significant effects on their later scholastic performance. Nonetheless, the generalization of this conclusion should be made with extreme caution, because the differences in context in which this study is carried out — the quality of life of the North American child and the quality of preschool education in the US — are not comparable to the experience of poor children in Third World countries.

The most general conclusion drawn from the research presented here is that there has been little evaluation of the effects of preschool education on scholastic performance and that it is not yet possible to draw conclusions. In addition, the designs and methodologies used have been weak and have not made it possible to analyze the impact of many other mediatory factors of scholastic performance that affect the child at school.

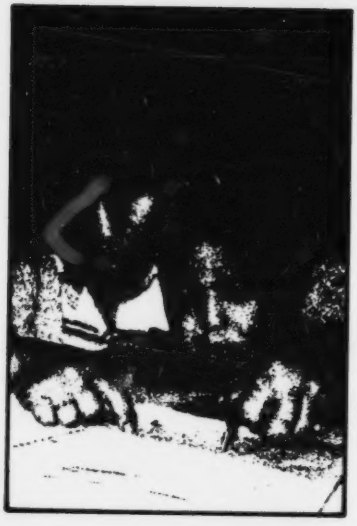
The studies made of the problems of preschool education in Kenya, Thailand, India, and Turkey show that, despite the differences between these coun-

tries, the common denominator is low program coverage. The number of children covered by preschool education programs is only a small fraction of the total population. In addition, in all of these countries the distribution of resources for preschool education is unequal, and it is poor children who have the least representation in this distribution.

Nevertheless, preschool education centres for poor children are characterized by a limited educational and learning environment. In contrast, the educational environment for children from high and middle socioeconomic groups offers children a wide range of educational and learning experiences, facilitating their development.

Another common factor found is that planners, implementers, and parents perceive preschool education as academic training for the children for their entrance to primary school. This explains why the curricula are generally oriented toward school and not toward the integral development of the child.

The need to develop strategies for the development of influences related to the economic and social problems of Third World countries and their cultures also seems to be the consensus among the planners and researchers of the various countries.



Part II

Some Considerations on the Preschool and Primary Problem

Introduction

This section is devoted to the analysis of the conceptual reference framework and objectives of educational programs for children. In addition, this section includes a study on the evaluation of costs of nonformal preschool education programs and its significance for the carrying out of policies and programs.

R. Myers gives a general view of the situation of children's programs in Latin America. He analyzes the evolution of their conceptual bases and of their objectives over time, providing the reader with a valuable frame of reference with which to analyze children's programs from a wider development perspective.

K. King focuses the discussion on the content and objectives of the educational component of the programs. The author points out the necessity of creating a new term *Child Development Centre*, as an explicit way of promoting a perceptual change of the objective of the programs in planners, implementers, and the community.

Bottani questions, from an ideological point of view, the utilization of developed country preschool education models as a frame of reference for policies and programs to aid preschoolers in countries of the Third World.

The study by Hernando Gómez revolves around the search for a new paradigm for confronting the problems of child development and education in Latin America.

Finally, the study by Latorre emphasizes the importance of performing cost analyses of nonformal preschool education programs so that these analyses permit the carrying out of programs with wide coverage to give proper attention to the basic needs of the child during his or her first years of development.

Early Childhood Programs in Latin America

Robert G. Myers[1]

This paper has three purposes: (a) to provide an overview of early childhood interventions in Latin America, (b) to raise some thorny questions about the preschool/primary school relationship, and (c) to set that main topic in broader perspective. Following a brief summarizing of the current state of affairs, I will discuss several shifts that seem to me to be occurring in early childhood projects and programs in Latin America, raising questions as I go about the transition from preschool years to primary schooling.

Overview

Providing an overview of early intervention programs in Latin America should be an easy task, given the spate of excellent reviews appearing in the last 2 or 3 years. Indeed, it is tempting simply to refer the reader to the works listed in the reference list and let it go at that. But an overview seems needed to provide a general background for discussion of the Latin American research being presented in this workshop.

Efforts to provide early education and other services for children 0–6 years old were found only rarely in Latin America before 1970 (Halperin 1980; Maurás et al. 1979). Previously, governments had taken little interest, leaving the field to private organizations. Preschooling was a formal upper-class affair. But pressures for expanded and reformed programs have grown steadily during the last 25 years, resulting in a new expression, post 1970, of interest by national governments.

Today, almost one-fifth of the population of Latin America is under 6 years of age, more than one-half of whom (or at least 40 million children) live, through no fault of their own, in conditions of abject poverty (Galofre 1979). With birth rates remaining high among the poor, while survival rates improve only slowly, the number of children occupying the anteroom of poverty continues to grow. At the same time, poverty and inequality are thought to be on the increase, pushed by the rising costs of survival associated with worldwide inflation and by the merging in several locations of regressive liberal economic policies with repressive politics. By the year 2000, the number of poor children in Latin America is expected to increase to 60 million. Simply keeping pace with growing numbers provides a challenge.

Other changes have increased the pressure for child care, preschooling, and other services for disadvantaged children. Poor women have had no choice but to join the labour force and have been doing so in unprecedented numbers (Maurás and Ossandon 1980). A shift away from the extended family toward the nuclear family has meant that fewer family members are immediately available as caretakers. No longer can mothers count on grandmothers or aunts, who may themselves be working. Heavy migration has exacerbated the isolation of the family and has meant in many cases that women must take over as heads of households. Nor is it as acceptable as in the past for older siblings to drop out of school to watch over younger brothers and sisters. Finally, attitudes toward women working are changing, but very slowly, in the *machista* Latin American society.

Preschool programs throughout Latin America reach less than 10% of the population, and most of the children reached are from the middle class (Halpern and Fisk 1978). The limited coverage is illustrated also by a recent study in Colombia where, despite important national initiatives to extend coverage, only 4% of the preschool children in rural areas had been reached by assistance programs of nutrition or health or stimulation. Those who had participated did so over a period of 1 year or less (Kardonsky-Titelman et al. 1981).

[1]Meeting coordinator. The Ford Foundation, Apartado Aéreo 52986, Bogota, Colombia.

Governments of almost every country within the Latin American region have shown interest in early child development and, to a lesser degree, in programs of child care. That recent interest is evident in policy pronouncements, in laws, and in government-supported experimentation with a variety of approaches to child care and attendant problems of health and nutrition.

Several examples will suffice:

- In Colombia, through the passage of Law 27 in 1974, a huge fund has been collected by taxing payrolls, for support of integrated day-care programs for children of working parents. The main use of these funds has been to create Centres for Integrated Attention to Preschoolers, (CAIPs). The government, through the Family Welfare Institute (ICBF), is experimenting with other models as well.
- In Venezuela, the Fundación del Niño has created a system of *Hogares de Cuidado Diario* (day-care homes), paying mothers in poor areas to care for children of others in their neighbourhood who are working outside the home. Similar experiments are under way in Ecuador and Colombia. More recently, the new Ministry for the Development of Intelligence has undertaken a wide range of activities designed to improve the development of preschoolers, including a television series about child development and care.
- In Peru, the educational reform of 1972 officially made the Ministry of Education responsible for the education of children from ages 0–5. The Ministry has responded by establishing preschools (*Centros de Educación Inicial*), by experimenting with programs providing parental education, and, occasionally, by assisting local initiatives involving centre-based child care using community volunteers.
- In Panama, the *Instituto Panameño de Habilitación Especial* carries a broad range of early childhood program activities aimed at averting mental retardation in all those Panamanian children at risk.
- In Chile, the military government has favoured the continuation and extension of massive preschool efforts instituted by the Frei and Allende governments and seeks coverage of all children from low-income families in some type of institutional day-care and nutrition program.
- Cuba has for many years had in operation a national program of child-care centres.
- The new Nicaraguan government is moving ahead on programs of child care through both its Ministries of Education and of Social Welfare.
- Brazil has many experiments under way through its Ministry of Social Welfare, the National Institute for Nutritional Assistance, and other agencies. These include preschool, crèche, and food supplementation programs, at national, state, and municipal levels.

Privately funded experiments have also blossomed. Again, a few examples, in addition to the research-related experiments reported on here, will indicate the variety:

- Along Colombia's poverty-stricken Pacific coast, a Van Leer-funded project, built around providing a healthy environment for the development of children, includes nutrition, health, income-generating, and parental education components.
- Feminist groups in Peru, Brazil, Colombia, and elsewhere are establishing child-care centres and training programs for poor working women.
- A novel approach for the problem of space is being tried out in Brazil where discothèques are used during off hours to house preschool programs.
- Experiments focusing on youth caregivers are under way in Jamaica, Colombia, and Chile.
- In Mexico, Peru, and Chile, projects to care for children have grown up around community kitchens.
- The "Parents and Children" project in Chile helps community volunteers organize parents to discuss problems related to the healthy growth of their children and provides some materials to help them with the task. The method and program are being experimented with in Argentina and Bolivia.

Many other examples could be added, from both the public and private sides, of more traditional programs and of health- or nutrition-related programs directed toward children in their earliest years. In brief, the apparent interest and action is impressive, at least on the surface.

Although interest has grown, and experiments have proliferated, few systematic evaluations of these experiments exist and we do not yet have a good idea of which intervention strategies work best when and for whom. We know even less about long-term impacts. Even without evaluations it is clear that there is no magic formula. It is clear that programs, in addition to covering only a small portion of the preschool population, are generally of low quality, and usually cost much more than most governments can afford. Moreover, preschool interventions are seldom directed toward those for whom the need is greatest. Usually, governmental programs lack integration and flexibility, and tend to be imposed, despite sometimes valiant efforts to correct these failings (Salazar n.d.). Thus, despite evident interest and initiative, programs generally lack breadth, depth, and impact.

Meanwhile, the knowledge base on which programs might be constructed is growing slowly. (I say "might be" because policies have not been informed by research.) There is now little doubt that intervention programs *can* make statistically significant, even dramatic, differences in physical and mental development (McKay et al. 1978). Both home-based and centre-based programs *can* produce results (Pollitt 1979). How long and under what circumstances these gains occur and can be maintained is not so clear.

Research has begun to yield tentative and provacative conclusions about the difficult and complex relationships between poverty and multiple deprivation in the early years and cognitive disabilities and later behaviours. In contrast to the simplistic explanations offered at one stage, it is now evident that health, nutrition, and stimulation interact and all are important. For instance, a poor diet affects the activity and responsiveness of a child and less active children are also less apt to be properly fed. Research studies have now documented the very high degree of plasticity children exhibit, a fact that cuts two ways. On the one hand, much more impressive physical and mental recuperation can occur than was previously thought possible — even for severely malnourished children (Montenegro et al. 1977). But backsliding also occurs frequently. Thus, programs built around "one shot" efforts will not be particularly successful, and the importance of continuity is even more obvious including continuity between preschool and primary school programs.

Research results from Latin America also suggest that, even with prolonged multiple interventions, the poor and multiply deprived are unlikely to close completely the gap between themselves and upper-class children (McKay et al. 1978). An obvious explanation has been that the poor simply cannot take full advantage of the opportunities improved development affords, including opportunties for schooling. Seemingly obvious also is a finding that, in general, the earlier the multiple interventions occur, the better.

From this research we see that improvements are possible to obtain, but the apparent need for multiple interventions and for continuity makes the task mammoth and costly. There is a need, therefore, for low-cost models for identifying those most "at risk" and for sorting out what is the most appropriate strategy for which groups.

Although the above provides a general idea of the current state of early childhood programs in Latin America, the field is undergoing changes constantly. In the following pages I will discuss briefly 10 shifts (some very slight but potentially important) that seem to be occurring.

A shifting rationale: from welfare toward development: Until recently, arguments for preschool programs in Latin America were phrased largely in welfare terms (Halpern and Fisk 1978). The continuing welfare bias of today stems from a history of remedial programs sponsored by religious or philanthropic organizations, upper-class do-gooders, and governments. Although the target of this frequently paternalistic, patronizing, and restricted approach has broadened in recent years — from abandoned or neglected children to poor children in general — the bias has remained, institutionalized in family welfare institutes, foundations for child welfare, and social promotion ministries. It is symbolized by the common practice in Latin America of assigning responsibility for early childhood programs to the President's wife.

During the 1970s, however, social and economic development objectives have slowly become more prominent in discussions of early childhood programs, with several variations on the theme. In some cases the main orientation is toward economic development, in others toward alleviating poverty, and in others toward overcoming discrimination and correcting social injustices. When the focus is on economic development, preschool interventions are rationalized as an investment in human resources that will increase productivity and reduce "wastage" of human talent and potential (Selowsky 1980). It is argued that healthy, mentally alert children will not only be able to work harder and learn more easily, but they will also be more likely to remain in school longer, a circumstance that is thought to affect future productivity in several ways. While increasing human potential for learning, preschool investments are presumed also to have a payoff by reducing dropout, repetition, and the need for special attention to meet minimum standards. A parallel argument is made for reducing postprimary costs and other social costs such as those related to delinquency.

The investment rationale has not yet been widely accepted in Latin America, with the notable exception of Chile and perhaps Venezuela. In part, the resistance is ideological. Beyond that, however, it has been hard to "prove" that early interventions are a good investment. Although a number of studies link nutrition and health improvements to improvements in abilities crucial for future learning, the evidence is not as strong or as consistent as it should be to be convincing. Some longitudinal work in Latin Amer-

ica and elsewhere suggests that early improvements in intelligence quotients (IQs) wash out. That conclusion is extrapolated to other effects, but without evidence. Moreover, the link between improved school performance and subsequent productivity is still questioned. Longitudinal data on access to and performance in primary school, to date, has not been brought together. Longer-term assessments of economic effects have not been made.

The hope that early interventions will help modify the cycle of poverty has had greater appeal in Latin America than the investment approach to early childhood programs. There are two main variants. In one, emphasis is placed on *child development* under the assumption that improvements in the early years will not only increase the chances that poor children will realize their potential as productive members of society, but also that they will be more likely to keep up with advantaged peers as they learn and earn in later life. A second variant places more attention on family earnings and on associated *child care* that will free family members, particularly women, for work outside the home.

When social justice is put at the centre, the arguments mentioned above can be applied but will be given a social justice twist related to reducing inequalities and/or to overcoming discrimination — against women in the working world, for instance. When that is done without simultaneously pointing to the need for social reorganization, these arguments seem empty, however. Thus, those who are seriously concerned about social justice are likely to emphasize the value of child development and child care seen in terms of its potential for facilitating organization needed to bring about broader social changes.

Programs of child development and child care are beginning to appear that build on the established fact that concern for children can mobilize community groups to action on many fronts in conjunction with providing a healthy environment for the development of their children (Walker et al. 1981). This organizational dimension to programs is still rare, however, the political threat inherent in the viewpoint makes it unpalatable to many and unlikely that it will be widespread — even though it is increasingly recognized that "community participation" in preschool programs is essential to their success (Bernard Van Leer Foundation 1979). Participation does not necessarily lead to organization.

Whether or not one emphasizes economic, social, or human justice ends when considering early childhood programs will make a difference in the way programs are evaluated. So will the relative importance accorded to needs of the child, needs of the family, and broader social needs — of the community or of society at large.

During this workshop we should be alert to the built-in bias it has toward viewing preschool interventions as investments and toward emphasis on individual child development with relatively little regard for effects on the family or on the community. The bias leads us naturally to focus on reductions in "wastage" in primary schools associated with the extension of preschool education. But in doing so, will we miss more important effects? It may be that the type of preschool program most likely to cut down repetition and wastage is one in which children have been taught to be more docile, to adjust better to authoritarian teachers, and to accept an irrelevant curriculum presented in unimaginative ways. Will an investment bias lead us to seek out the ways children with early education adjust better to primary schools when the reverse should be done? Will an emphasis on individual development and subsequent performance in schools lead us to overlook important effects of early programs on the family and the community that, in the longer term, may be more important for bringing about changes — in the primary school as well as in other areas of life?

Shifting scope and coverage: As implied in the introduction and in my previous discussion, the coverage of child development and child-care programs is low but increasing slowly. No longer is the field an upper-class monopoly, providing enrichment for their own and extending beneficent care to a few selected poor — a salve to the conscience. The 10% figure quoted is probably out of date. But even a 15% figure is not much to brag about if, as is the case, most of the 15% are middle-class and urban children.

As preschool programs expand, they may or may not have a democratizing effect. As indicated earlier, poor children exposed to intensive programs of stimulation and care do not catch up completely with richer peers. Moreover, preschools can easily become another, and earlier, social tracking device, with richer children going to private, costly, well-equipped, high-quality preschools, while poor children enter public, low-quality programs of custodial care. Where there is competition for admission to primary schools, preschool attendance could become the not-too-rational basis for deciding who, from among the poor, gets to enter which schools and how soon they can enter. As the workshop discusses the preschool/primary relationship, this selection function of preschools, which is already evident

in many Latin American settings, should be kept firmly in mind.

As expansion has occurred there has been little effort to adjust the content of preschool programs in Latin America from their class and cultural biases taking into account possible differences in child rearing practices and needs. Systematically identifying these differences is a task still to be undertaken in Latin America. The poor parents whose children are increasingly being incorporated into preschool programs are likely to insist that their children learn to read and write, much to the consternation of their progressive middle-class teachers who wish to emphasize prereading skills, the development of basic concepts, and to promote an active inquiring spirit. But should poor parents and their children be denied their request when richer children are being taught at home by parents? To what extent does rigid adherence to one set of child development principles undercut results by isolating parents from the programs and with what effect on later performance?

Toward a combination of custodial and developmental care: Programs of child development and of child care seem to have moved along two separate tracks despite their obvious overlap. Child development programs are oriented almost exclusively to the child's physical, mental, and social growth, with little or no thought to effects on caretakers or on the community. That is true of most preschool nutritional supplementation and health programs. Child care programs have a custodial bias often originating in the need or desire of family members to work. Whether child development occurs in programs of child care is a minor consideration, particularly in those programs serving the poor. These separate, shortsighted approaches continue, but increasingly, efforts are being made to bring the two together.

Programs that are set up to respond to family needs are much more likely to emphasize the custodial dimension of care. Family needs affecting programs for children will of course depend very much on the economic circumstance and composition of the family. Whether rich or poor, however, families frequently express a need for their children to be "enriched" or more intelligent. Whether rich or poor, one-parent families, or those in which both parents work, require custodial care for their young children. The rich can meet these needs on their own by hiring a servant or paying for their children to attend a private preschool.

Poor families have difficulty meeting both the developmental needs and custodial needs of the child. They not only lack resources but often the knowledge and ability to take advantage of resources made available by others. They are forced to make unfortunate compromises in the quality of the development and care they can provide. Sometimes the compromise is to abandon a child in the hope someone else will be willing and able to provide the proper care they cannot. Too often the solution is to lock the child in the home, unattended, while the parents work. Generally, however, the solution involves leaving children in the care of an older sibling, a relative, or a neighbor who, unless exceptionally loving and motivated, does little for the development of the child. Thus, most child care among the poor in Latin America is, de facto, custodial, rather than developmental, responding first to the family need and only second, and perhaps not at all, to the needs of the child. Most governmental programs of child care for poor families are also primarily custodial, despite professions of developmental goals. *Guarderias* (day nurseries — a word that instantly conjures up a custodial image) are notorious for their lack of developmental attention to children and have been shown in some instances to have had a negative effect on the development of the children parked there.

By way of contrast, programs established for children of poor working parents and energetically directed toward developing children, seldom do a good job of meeting the custodial needs of the families they serve. The hours during which care is provided do not correspond to times when child care is most needed. Or, access to the caretaking centres is difficult; working mothers with access to a program in the workplace, for instance, must take small children with them on crowded bus trips of over an hour to reach a work-based program.

One cannot argue with the desire to add developmental elements to custodial preschool programs. At the some time there is a challenge associated with a shift toward child-centred developmental programs; to make that shift without disregarding the "child care" needs of poor families. When we look at the relationship between preschool and primary school programs, we should not forget that most primary schools in Latin America (and elsewhere as well) are essentially custodial institutions, overlaid with a tiny bit of developmental help for children. That fact raises an interesting problem for primary schools when preschool programs are truly developmental. Most schools are not ready to receive active, exploring children who have already mastered the few concepts they are sup-

posed to learn while being baby-sat. Can primary schools make the adjustment?

From recuperation toward preventive intervention: Labeling this as a shift may be more wishful thinking than fact, but an increase in attention to parental education and "ecological" approaches to early attention suggests there is a change. The need for preventive actions, although seemingly obvious has been slow to emerge. The shift has been helped by evidence that children treated in and released from nutrition recuperation centres are likely to be repeaters. It has been helped by the stir created over reductions in the practice of breast-feeding and the earlier appearance of malnutrition. It has been aided by studies showing that full recuperation is difficult, and it is common sense.

Most preschool interventions that have an explicitly educational purpose are directed toward children in the 3–6-year-old range. This workshop deals with preschool programs for children 0–2 as well as 3–6 years old but does the workshop emphasis on the transition to primary school favour discussion of programs at the older age? In so doing, will we reinforce a recuperative bias and overlook more important and earlier interventions affecting school performance and later behaviour? Can we, instead, use the information at hand to compare long-term results from earlier rather than later interventions — or is that a task that must await future studies?

In conjunction with the shift toward a preventive posture, some work has been done on ways to identify families whose newborns and infants will be "at risk." Sorting and verifying these indicators (a general index of socioeconomic conditions, a "crowding" index, nutritional and health measurements for the mother, the presence of one or more malnourished or otherwise retarded child, and so on) remains to be done, and the real effect on children of acting in a preventive way based on such determination has yet to be established.

Evidence establishing an effect of parental education on the development of children is hard to come by. Programs can be shown to bring changes in knowledge and attitudes, and occasionally practices, but the real effect on the child, and the duration of that effect, is not well documented. How do parental education efforts help the transition to primary school?

The following three shifts from an "innoculation mentality" toward continuous intervention, from single toward multiple "integrated" interventions, and from a one-model approach toward "planned diversity" have been alluded to in discussion of previous points. All three are seen as increasingly important, but they run up against problems of cost. The latter two create administrative headaches and problems of bureaucratic coordination as well. They also tend to put an overload on systems that are short of trained talent.

For "planned diversity" to be effective, much more information is needed about what works when and for whom. Under what circumstances is it best to establish neighborhood centres, work-based centres, or home-based or school-related programs of early care? What "spontaneous" forms of child care exist that could be built upon to help diversify care — from the ground up? What combinations of materials, methods, and forms of organization can be put together that are applicable in enough settings to provide general help within a diversified system?

The following two trends *from "directed" toward participative programs* and *from certified professionals or parents to working with many caregivers* open myriad options for programs of child care and child development — options seldom considered seriously in the past. These new models hold promise for being closer to reality and lower in cost than more traditional programs, but the question of quality is ever present.

Participation takes many forms: at the centre of an activity or on the margin, as an individual or as part of a family or community unit, by donating money or materials or by acting directly, as part of a learning process or not, and so on. In the preschool program in Puno, Peru, participation by parents and community members occurs through the choice of the volunteer "animator," the construction of a locale for the program, and the daily preparation of lunches (with most, but not all, of the food provided by outside sources) for the preschoolers. However, the community does not participate in the running of the program, in decisions about its content, or by helping inside the preschool. Parental education through the program is minimal, and there is relatively little participation generated by the program directed toward improving the general conditions in the home or community that affect child development (Checa et al. 1981). The "Portage" model, also in use in Peru, requires active participation by parents in child development, but there is no element of group participation and the program is set (Jesien et al. 1979).

In 1979, a meeting in Cali, Colombia concluded that, to be effective, preschool interventions needed to go beyond activity involving individual parents or families to involvement of

communities (Bernard Van Leer Foundation 1979). Only then would one begin to get at the environmental and social conditions affecting negatively the early life of children. More than one experiment has been designed to do exactly that — the Colombian projects in Cartagena (Rojas and Durán 1979) and along the Pacific coast, for instance. From these and other projects the value of community involvement is evident, but so is the difficulty of building and maintaining participation where none existed before and where strong community institutions are not in place.

The primary school is part of the community environment affecting children. It is not a "participatory" institution, and is controlled by the state, with content beyond the control of a particular community and often with a teacher the community has not chosen. If community participation is felt to be so necessary for the success of preschool interventions, why not for schooling as well? What does it mean for the long-term impact of early childhood programs if participation stops at the primary school door? Can community participation in early childhood programs lead through community pressures to changes in primary schools?

Closely related to the question of participation is the experimentation in early childhood programs with the involvement of many caregivers or "education agents." In Latin America, projects or programs are under way built around community volunteers, older siblings, youth groups (such as scouts or recreation clubs), the aged, unemployed poor women, paraprofessional health workers, high school or college students, and social workers, none of whom have been "certified" for child care. We know very little about the impact of these various programs on the development of participating children, or for that matter, on the caregivers. Among the many possible caregivers, and within the context of this workshop, it seems worthwhile to single out primary school students. In Latin America, as in many other parts of the world, most children who pass the age of 7 or 8 are already in a sense adults. "Childhood" is a product of recent development and still reserved for the wealthy. Whereas children from 8 to 12 are considered part of the child-care problem in the United States, their counterparts in poor families in Latin America are often part of the child-care solution. Because the poor tend to have larger families, the probability that siblings will have a child-care (and, therefore, child development?) role in poor homes is greater than in middle-class families. In some places, children seem to have a major role in the child-care process; in others they do not because they are in school, because they have other family related tasks they must carry out, or because families are young. The possibility that siblings can serve as caretakers is conditioned, then, by family structure, by the pressures on youth to work, and by the extention and organization of schools (whether or not they function on a shift system, for instance).

Involvement of older children in the care and development of younger children carries potential benefits well beyond the obvious one of forcing parents to work. In some places, youth cannot find employment, and, because they are at loose ends when school is out, get into trouble. Youth caregiving could not only keep older children busy but could also lead to a career line for some and, if accompanied by some education, provide them at an early age with knowledge and skills related to parenting.

Despite its seeming importance, we know relatively little about the frequency with which youth act as caregivers, how often their role is a main one, or under what circumstances it is most likely to occur. Nor do we know how frequently these demands are responsible for primary school (or later) dropout. Nor do we know whether or not programs of education for children 8-12 years old performing caregiving roles will make them better caregivers (and, not incidentally in the long run, better parents). It is possible to imagine, for instance, that programs directed at older children would reinforce negative feelings toward a job in the home that is unwanted or resented. It is possible that attempts to build upon something that occurs naturally could take away the spontaneity elements in care for younger children by older ones -- with a negative rather than positive effect on development of younger children. The expectation is, however, that results of "child-to-child" programs will be positive, and there is evidence from the health field to support that (Shuster 1979). Still, one must look on new ideas with a critical eye.

In Latin America and the Caribbean, programs involving older children who care for younger ones are not widespread, but examples can be found in Chile, Peru, Ecuador, Brazil, Colombia, and Jamaica, for instance. In most cases, these programs are directed toward high school youth. Almost nothing has been done to involve or educate primary school children with respect to child development and care.

In a few places, nursery schools or kindergartens are located next to, or even in, rooms of a primary school. Yet there is virtually no coordination between the preschool and primary school

programs. Hours are different making it difficult for older siblings to bring younger ones to their preschool and take them home. Teachers have no contact. The primary school curriculum takes no note of the presence of preschoolers. The seeming inability of primary schools to adapt themselves is again apparent.

It is interesting that the neighbourhood and the workplace and even churches have figured much more prominently as locations for preschool programs than the schoolyard. As we discuss preschool/primary school relationships, we should give a place to discussing the potential advantages and disadvantages, short-term and long, of associating early intervention programs with primary schooling and of involving older children more permanently in the care of younger children. Could such arrangements foster participation of parents and other members of the community in matters related to primary school as well as preschooling? Could programs benefit, at relatively low cost and with reasonable quality, other younger and older children? Could the association provide greater continuity during transition?

From more expensive toward lower-cost programs: Costs must be part of any discussion of preschool interventions. Unfortunately, we are working from a weak base. There are very few good (and public) evaluations of the costs of preschool programs. The traditional accounting methods used are seldom adapted when evaluating less formal, community-based early interventions. We need better methods as well as better information.

From the existing studies of costs, we can divine some obvious conclusions: that government-run, professionally-staffed programs are generally more expensive than local community-based programs involving volunteers; that most pilot projects are too expensive to replicate; and that hidden costs associated with foreign donations of food or services, or even with the time of "volunteers," can be high and hard to sustain (Jesien et al. 1979). In the move toward lower costs, there may be a trade off with quality, affecting the impact that can be expected from programs -- in primary school and beyond. On the other hand, the need to seek lower costs has helped break away from an imported, upper-class, tradition that demands fancy conditions, too beautiful materials, and overly trained personnel. The challenge of providing quality care at low cost has been accepted but the results are not available.

What is much harder to divine is how costs, however calculated, should stack up against benefits — to children, caregivers, families, the immediate community, and society at large. The ability of traditional evaluation to capture such benefits is limited (but not to be discarded). Long-term impact of programs must be considered on physical growth, IQ, school "readiness" (in terms of social skills, language ability, conceptualization), access to primary schooling, progress through the system (how far, how fast, with what repetition, and with what special attention), school achievement, and educational motivation and aspirations. They should probably be related to costs. But it is important to include also less obvious benefits to families and to the community. For this, we need to apply more open, qualitative evaluation methods, as is being done, for example, in the ongoing evaluation of the Parents and Children project in Osorno, Chile. In that evaluation, primary school access and performance are only two among many criteria for program success.

Concluding Comments

In the foregoing, I have tried to capture something of the state of early childhood thinking and programing in Latin America. New objectives, organization, content, and modes of participating are emerging; many variants are being tried; interest is high. But progress is slow. Major problems remain: of coverage, quality, cost, flexibility, prevention, continuity, cooperation and integration (among different parts of the bureaucracy, and among different levels of any system), and family and community participation. The custodial and developmental lines of early childhood programs need to be brought closer together. Articulation with primary schooling is obviously inadequate.

As suggested throughout this paper, much more research and evaluation needs to be done in some crucial areas. However, much of the information to be derived from research and evaluation that is needed to provide guidance for improving early childhood programs is already in hand.

Adding up what we have learned, putting it in a form that can be used by decision-makers, and making that information available must receive as much attention as carrying out more research. While avoiding the simple answer, I hope we can advance that task in this workshop.

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Conceptual Issues in Preschool and Early Primary Education

Kenneth King[1]

Early childhood education and adult education both stand in a somewhat uneasy relationship to the mainstream, formal education. Not being sectors completely linked to state provision, they remain arenas of voluntarism, and partly as a consequence offer a bewildering variety of ideologies, teaching styles, and administrative arrangements. Supporters of early childhood and adult education have long been proud not to be a part of what was seen as the monolithic primary and secondary school system with its sequencing of age, grades, and certification. In a real sense, some of the thinking in childhood and adult education circles has been *anti-school* — on the one hand, viewing the preschool years as the last frontier of freedom before entering a world of regulations and teacher-centred curricula and, on the other, seeing much adult education as having sensitively to pick up the pieces of the many individuals demoralized or rejected by the formal school. In rather different ways both adult and early childhood education have had a strong philanthropic tradition, and have paid considerable attention to the children and young adults of the working poor. At the same time, however, both sectors have also been taken advantage of unduly by the middle and upper classes.

Turning specifically to the early childhood sector, it is not the objective of this paper or this meeting to promote a closer link between preschool and primary school. Given the proud legacy of difference and even hostility, it would be wise to acknowledge that there is perhaps an inevitable tension between the world of childhood and the world of compulsory school. The concern is rather to examine the range and complexity of interactions between preschool and formal primary school as these affect the mass of poorer children. There are so many different assumptions about the nature and direction of this relationship that it may prove useful to have some of these laid out in the open.

Preschools and Primary Schools: The Child and the Pupil

There is some advantage in being aware of recent preschool patterns in the more industrialized world, even though the scale and coverage of this sector has grown dramatically, to a point where it might appear both quantitatively and qualitatively different from developing countries. Conceptually, however, many issues are very similar when it comes to analyzing the role of early childhood education.

Preschool vs. Primary School

One of the themes that may be expected to emerge in any analysis of these two worlds is the hostility of the primary school environment for many children coming from poorer homes. In countries as diverse as Brazil and India there is a dramatic exodus from primary school in the very year that most children enter it. Something of this dropout or school failure may be attributable to economic reasons, but economic reasons did not apparently prevent enrollment a year earlier. A much greater reason would seem to be factors in the school itself. A combination of teaching styles, conformist pressures forced by large classes, and critical examination barriers (even in the first year of school) manage to sort out tens of thousands of poorer children into deserters, repeaters, and "slow learners" almost as soon as they enter the system.

[1]Associate Director, Social Sciences Division, International Development Research Centre (IDRC), P.O. Box 8500, Ottawa, Ontario, Canada K1G 3H9.

As a consequence, one common justification of early childhood education in noncompulsory school systems is not so much to prepare children for school, but to arm them to defeat school. The tendency for unprofessional grade 1 teachers to reinforce the "bright" children and discourage those who seem lost is so widespread that preschools are compelled to play a role of preparation for survival. We shall return shortly to what different interpretations of preparation are possible in this situation, but clearly this preschool perception of the way primary school can function does in no sense imply that preschools are subordinating themselves to primary school preparation. They are not aping primary school methods, but ensuring as a lowest common denominator that preschool leavers can cope with primary school environments.

From this perspective of the hostility of the primary school world, it is important not to underestimate school survival as itself an outcome of preschool education. Studies that emphasize the tendency for test scores of children with and without preschool to even out in the first years of primary do not always admit that whatever the precise cognitive impact of preschool, the children do at least appear to have survived long enough in school to be tested.

Variations on Preschool vs. Primary

We have termed the preschool arena one of the last educational frontiers, within which there is still a great deal of individual variation in institutions. It is, however, a moving frontier, and in parts of Europe and North America, particularly, many "preschool" institutions are really on the formal school side of the frontier. Although termed 4-year-old or 5-year-old kindergartens they are firmly part of the formal school system: 30 children, a single teacher, and a school ethos. This is not to say that wherever preschools are attached to primary schools, or where they become the almost universal antecedent of grade 1, they necessarily lose their autonomy. But in many situations today it will be worth examining whether preschools are really not early versions of grade 1, just as, in colonial Anglophone Africa substandard A and substandard B were direct anticipations of the style and curriculum of grade 1. Even in urban Kenya today it might be more appropriate to allocate the "preschools" to the formal school side of the frontier. Their major role, as has been shown in Gakuru's work[2], is selecting children for the markedly different types of primary school.

Deciding about the actual function of a preschool is not an entirely academic question. Where preschools are almost universal and compulsory, or where they play a predominant role in sorting children into more and less status-full primary schools, they will tend to anticipate grade 1 work and methods. In cities as different as Edinburgh, Calcutta, and Nairobi, children prepare for and sit exams in preschools to determine entry to the better primary schools. If, then, preschool is itself a sector of sometimes intense competition among middle-class parents, or if it is well nigh universal among the better educated, it becomes more difficult to think of a preschool head start for the poorer children who perhaps need it most. Putting this rather differently, it could be said that the downward extension of formal education into the preschool sector (widespread among the middle classes in developing countries, and well nigh universal in the industrialized world) makes it difficult to use the term head start at all when talking of the poorer classes. Except in a relative sense: even to catch up with the middle class head start, poor children need to be preschooled. To be more logical, poor children need a prepreschool if they are to start on equal terms at all at age 4 or 5.

Relative Head Starts

Like the word preschool the term head start turns out to be rather elusive. Given the increasing inapplicability of the concept with the widespread coverage of middle-class preschools, it might still have relative value when applied to rural areas, where the middle peasantry have not been incorporated in this form of preschool. As a consequence, it would be possible in *principle* (even if politically unrealistic on any large scale) to conceive of a preschool head start for the lower peasantry. This is in fact what seems to be happening in several different locations in Latin America. Without in any sense challenging the advantage of the urban middle classes, a small head start can still be arranged in rural areas vis-à-vis other sections of the peasantry and small town dwellers. For example, the Parents and Children project in Osorno, Chile, or the Early Childhood Education project in Puno (Pollitt 1979) both work with the poorer communities, and offer their children an earlier education than many other school-goers will achieve.

Perhaps head start is too positive a term for the preparation against primary school failure or

[2]Seminar on preschools in urban Kenya, November 1978, Nairobi.

discrimination that we described earlier. A more accurate metaphor might be an insurance (partial cover only) against damage in the first years of primary school.

Preschool Dogmas in Developing Countries

In the last section it was implied that a preschool was not really a preschool if it was very closely incorporated into the formal school system. Clearly this implication might be unacceptable as it had not yet been defined what a preschool was. No simple definition is possible, unfortunately. There are, however, a number of bands along which most varieties of preschool could be placed at some point: anti-school – ante-school, intellectual and social skills – school skills, learning through play and general intellectual activity – learning through the three R's, mothering – teachering, responsive – teacher-initiated, learning to learn – learning "minimum essential learning needs," learning with mother father – teaching mother father to teach child, fostering independence – teaching respect, voluntary, community participation – state provision, and educating – caring.

It has not proved possible to group these various bands in ways that would allow very clear characterization of differences in goals, ideologies, and teaching styles. But in general the right-hand side of the spectra suggests more formal, teacher- and school-focused, state provision, whereas the left-hand side of the bands points toward less instrumental curricular objectives and more general concerns with intellectual and social development broadly conceived.

As the concern in this paper is with preschool policies for the poorer sectors of society, this set of alternative directions in preschool emphasis may help to clarify a little the complexity of settling on a single approach. It also helps to suggest how narrow have been some of the measurements of preschool "success."

For example, should policies concerned with compensating for poor intellectual environments at home and in the community develop preschools characterized by some of the qualities on the right of these spectra or skills anticipatory of school concentrating on very specific (minimum) learning objectives? Many would say "yes," that preschools compensating for a hostile home environment and preparing for an equally hostile school environment should teach the lowest common denominator, school-coping skills. This may appear particularly reasonable in poor countries where it may be necessary to predicate preschools on unqualified staff whose own education may not have gone much beyond primary school. Indeed, elements of this approach are apparent in some of the programs in Latin America, as well as attempts in many countries (developed and developing) to incorporate the mother as a more explicit teacher of her child. However, home visiting elements of many preschool programs have, presumably, a tendency to communicate the letter rather than the spirit of intellectual activity, and may well, in seeking to teach the mother the tricks of the intellectual trade, end up with a small number of school-related suggestions.

The question mark around this perhaps inevitable emphasis on very basic cognitive tasks and skills in compensatory preschool education is that children who ultimately do well intellectually and socially have learnt or begun to absorb a much *less instrumental* approach to knowledge. This is captured very well by Raven (1980) in his recent book, "Parent, Teachers, and Children" from which the following commentary on the fostering of intellectual skills among the higher socioeconomic status (HSES) parents in his sample is taken:

"They [HSES] focus more on fostering success indirectly – by fostering qualities like independence and confidence in dealing with new situations. These qualities may make for increased success at school and, quite independently, for increased success in life. The HSES group make more use of rewards – including the intrinsic reward that comes from successfully undertaking an activity and seeing that it produces the results that are desired. They make much more use of teaching by example – including the example portrayed by others who work hard, handle responsibility well, and themselves behave in highly commendable ways. They promote development by responding to the child and, possibly, thereby reinforce the child's tendency to take initiative, to reason, and to argue with authority. Not only is such behaviour likely to reinforce the child's tendency to engage in it, it is likely to lead the child to think of himself as someone who has a right to opinions and activities of his own, who can independently find information he needs, who is entitled to raise questions about the wisdom of his superiors, and to expect to guide his own behaviour by reference to the long-term good of society rather than the dictates of an authority which both demands instant obedience and is not open to reason."

Reproducing elements of these rather complex intellectual qualities through preschool activity

may seem a rather tall order but in many different settings from Istanbul to Ottawa there are preschools that set themselves this task. Sema Ulcay's Child Welfare Organisation in Turkey, for example, or Kathy Yach's Day Care Centre in Ottawa both see themselves as generating intellectual attitudes that may very well be at variance with patterns of pupil–teacher interaction common in the first years of primary school.

Returning for a moment to the bands or spectra of preschool styles, it is easy to see how the preschool arena has become a battlefield of dogmas and conflicting ideologies. This has perhaps so far been more apparent in the industrialized world than in developing countries; and it may even appear to planners in the latter that the preschool controversies of Europe and North America are a luxury in their own economic situation. However, conflicting approaches to preschool education have already begun to appear in most developing countries, and the task for researchers has correspondingly become one of sorting out what are the various local manifestations of preschool education and what characteristically they are achieving. I turn, therefore, to a few methodological aspects of preschool — primary relations.

Conceptual Issues in the Measurement of Preschool and Primary School Interaction

At the moment, the field of early childhood studies suffers from a lack of adjustment between the action in favour of young children and the reporting upon it; or, to be more accurate, the research results on this sector pertain predominantly to what are the apparently more measurable elements of that very diversified set of activities and programs. Consequently, tightly controlled experimental (and longitudinal) research is most frequently reported. Typically, the central elements in these research results are pre- and post-test scores of various abilities, skills, and attitudes. The discussion is very much concerned with the maintenance of scores on these scales over periods of several years or, alternatively, of initial gains being "washed out." Equally, state-of-the-art reviews on the whole field are extremely partial, reflecting only studies that seem to offer somewhat hard data.

It should be clear from the range of bands along which various preschool programs can be positioned that the decision to regard scores in particular kinds of school and preschool tasks as a crucial success measure is itself an indication of serious bias. It is likely to favour programs that incline toward the teaching of school skills and is likely to undervalue some of the more complex attitudes to learning and to new knowledge that many of the programs on the left of the spectra seek to develop. Probably in preschool programs research has so far captured only a fraction of what is really transpiring in many of the programs.

Of course in preschool as in the other frontier territory, popular or nonformal adult education, the majority of the programs are excluded from serious study because they are not designed in ways that traditional evaluation methods find appropriate. Only "designer" preschool programs have received serious attention.

Gradually, this is changing in both adult and preschool studies. Programs of mother child stimulation are beginning to be evaluated in ways that capture the complexity of the interactions between "animators," program organizers, mothers, and children. One example, already referred to, is the evaluation of CIDE's "Parents and Children" program in Chile by a joint group of program participants, CIDE researchers, and Howard Richards.[3] Another would be the blend of quantitative and illuminative methods applied by John Raven in his "Parent, Teachers and Children." Both are involved in very different parts of the world (Chile and Scotland) in the evaluation of programs where mothers were being stimulated by "animators" to become better trainers and developers of their preschool children. The consequences, both intended and unintended, of these different interventions are laid bare, as are the many possible interpretations of what may actually be happening. With the introduction of more sensitive evaluation measures it may be anticipated that a much richer understanding of early childhood programs will be possible. Case studies are needed of the early stimulation process at work, of Latin American day-care centres, and of preschools along the spectrum from anti- to ante-school. Equally important, there is a need for transition studies, working in grade 1 classes to tease out the interaction between ordinary teachers and children "with and without 'kinder'."

In the first instance, the impact of such studies will be to raise questions about the usefulness of phrases like "with 'kinder'," when they cover such a range of often conflicting approaches to early

[3] A draft document should shortly be available in English and Spanish from CIDE, Erasmo Escala 1825, Box 13608, Santiago, Chile.

education. But, as a result, the debate about the impact of preschool will be dramatically broadened to include insights beyond the present range of "designer" programs. A further consequence of more sensitive evaluation methodologies will be an increased range of meanings for such overused currency as "does preschool *work*" and "is preschool *effective*"?

This trend away from evaluating only the findings of designer studies may seem to make it even more difficult to build an argument about preschools that might impress a policymaker. In actual fact, the opposite might be the case. One weakness of presenting to policy people research results that derive from very carefully designed quasiexperimental interventions may be precisely that the programs appear *insufficiently ordinary*. The research results may be persuasive but reproducing the small groups and intensive stimulation of many such studies may look quite unrealistic in the economic situation of many developing countries. Paradoxically, there may be much more interest from policy people in learning what can be expected from a very ordinary group of 3- and 4-year-olds being "taught" by a very ordinary caretaker (perhaps a young girl just out of primary school herself), in a very ordinary backyard or home environment.

Pollitt, E. 1979. Early childhood intervention programs in Latin America: a selective review. New York, USA, Ford Foundation, January, pp. 109 and 195.

Raven, J. 1980. Parent, teachers and children: a study of an educational home visiting scheme. Great Britain, Hodder and Stoughton.

From Child to Pupil: Winning the Game But Losing the Match ?

Norberto Bottani[1]

"Perhaps the pre-school experience thus helped students acquire more quickly and successfully the role of pupil. If so, it supports the belief in the efficacy of motivational and social behaviour in school performance" (Hess 1977).

"Yet intervention must be cautious because behaviour and attitudes adapted for and essential to survival in the immediate environment should not be abruptly interrupted" (Halpern 1980).

Introduction: The Reverse Side of the World

By a strange coincidence, just as I was beginning to think about the paper I had to write for this seminar, I was sent the last issue for 1980 of the Harvard Educational Review containing an article on early childhood educational programs in Latin America (Halpern 1980). Reading it convinced me that I had to specify my frame of reference to avoid being misinterpreted but particularly to acquire a better understanding of what I am going to hear and above all see. Before mentioning the things I know best, meaning the state of preschool education in the Organization for Economic Cooperation and Development (OECD) countries and particularly in Europe, and explaining how I interpret developments in the relations between preschool and primary education, I should like to tell you how I see the position and problems of preschool education in Latin America, which I hope will help you to appreciate my own attitude and understand the approach I have adopted in this paper.

When I compare the data available about childhood conditions in Latin America and in Europe, I have the impression that I am faced with two diametrically different realities, as though there were two worlds, one of which is the reverse of the other. This impression is confirmed from the analysis of three categories of indicators: demographic data, health and sanitary conditions, and employment.

The demographic situation in Latin America is that young people are in the majority in every population. The birth rate is very high and so is the fertility rate. A quarter of the population (nearly 80 million children) is under 6 years of age. The opposite is the case in the OECD countries where the population is markedly aging and the number of young people diminishing.

In Europe, the number of couples with no children or only one child is rising; the intervals between successive births are lengthening, age at marriage is high and the frequency of marriage is diminishing. The predominating type of Latin American family, on the contrary, is large, with pregnancies following close on one another, early marriage, and a high marriage rate.

As regards health and sanitary conditions, a study of the trend of infant mortality, which is a good indicator of progress in sanitary conditions and medical care, will suffice to show that Latin America has an average rate of 84‰, whereas it is about 18‰ in the OECD countries. Mortality might also be considered during the first 4 years of life, which is largely due to malnutrition, poor sanitary conditions, infectious diseases and accidents, and lack of medical care. In this case too, the contrast is tragic: in the advanced industrialized countries, this mortality rate is 0.8‰, whereas in Latin America it is 6.9‰. On the one side, parents are in very little danger of losing a child, on the other, the risk is high. On the one side, very few children now know what it is to see a brother or sister die during their first few years of life, on the other, it is still a common experience. On the

[1]Principal Administrator, Organization for Economic Cooperation and Development (OECD), 2, Rue André Pascal, Paris 75775, France. The views expressed in this paper are those of the author and do not commit either the Organization or the national authorities concerned. I am indebted to my colleagues George Papadopoulos and Pierre Laderrière for their comments on the first version of this paper.

one side, the composition of families is very homogeneous, the majority consisting of the parents with one or two children relatively close to each other in age, on the other, heterogeneity is the rule and large families with a very wide age differential (because deaths break the even rhythm of steady family growth) live side by side with families in which only one or two children have survived.

In the case of employment, the structural change in the OECD countries that has most affected the functioning and daily lives of households and families, and especially parents with children, has been the spectacular increase in the number of women in paid employment. At the present time, the average participation rate of women in these countries amounts to almost 50% of the female population from 15 to 64 years old (so that one woman out of every two goes out to work), whereas the corresponding rate for men is 85%. This indicator is significant of the change now taking place in living conditions and the rearing of children in the industrialized countries. Thus, if both parents in an increasing number of households work in the productive sector, some solution must be found for minding, tending, and rearing children up to the age of 6 years old who are not yet enrolled in the compulsory educational system. Incidentally, one of the main causes of the growth of preschool education in the industrialized countries was the mass entry into the labour market of young mothers with babies.

In Latin America, the situation in this respect is much more complex. The number of women in regular paid employment is not at the same level, but the number of working women in the productive sector, especially in rural areas, where women have always had jobs in production, or in the clandestine labour market, is fully as large. However, tradition assigns women responsibility for domestic work and confines them exclusively to the role of housewives confirmed in this by the low educational level of the majority of the female population and by the burden of successive pregnancies owing to the absence of family planning.

Admittedly, the contrasts are not as sharply defined as may be assumed from the figures. There is light and shade in all areas but this is masked by the use of averages. Striking inequalities persist in all OECD countries, where certain social classes and regions are less privileged than others. It is known, for example, that infant mortality rates are still high in the lower social categories. Infectious diseases, epidemics, and malnutrition are still prevalent in the Mediterranean countries, and in a city such as Naples, for example, they are very common. Nor are housing conditions salubrious for everyone as is obvious from a visit to the eight shantytowns of Marseilles or those of Lisbon. Welfare states and consumer societies have their own underprivileged citizens who have so far reaped only a minimum benefit from the constant rise in living standards and purchasing power. Destitution and poverty persist in a "Fourth World" that is ignored, marginalized, and discriminated against ("Livre Blanc des Enfants du Quart-Monde 1979" — White Paper on Children of the Fourth World 1979). But it must be admitted that there is no common measure with the social situation in Latin America. Although it is estimated here that between 50 and 65 million children under the age of 6 years old (i.e., about 6.75% of the children in this age group) live in an environment where health and sanitary conditions are inadequate and housing unsuitable (Halpern 1980), it is not even known exactly how many children grow up in similar conditions in the OECD countries. It has been calculated that 5% of the population of the European Community live in very low-income households, but it is not known how many children are included in this group. In the United States 17% of all children under 18 years of age in 1975 belonged to families living below the official poverty line. The international ATD Fourth World movement estimates that "Fourth World" children account for at least 5% of all children in the industrialized countries and that they number 5 million in Europe alone. No indication is given as to age, but it is probable that this estimate concerns all children up to the age of 16 or 18 years old. The number of needy children under 6 years old is, therefore, probably about 1.5 million.

On one side, 1.5 million, on the other 50 to 65 million. Two different magnitudes which cannot be compared; two opposite worlds: in one, social outcasts and extreme poverty are the exception, in the other they are the rule; what is common on one side is uncommon on the other. This background must be borne in mind if what I intend to say about preschool education is not to be misinterpreted.

Preschool Education

Before I go into greater detail about European trends and experience, it may be useful just once again to compare the general situation. On this point too, the contrast is sharply defined. One need merely consider three aspects of preschool

education: nursery schools (i.e. preschool education facilities for children between three and six years old), day nurseries (institutions for children up to the age of 3 years old) and the ideological implications of preschool education. In Latin America, on the threshold of the 1980s, fewer than 10% of all children take part in early childhood education programs (Halpern 1980); care and educational institutions for children up to the age of 3 are almost nonexistent (Pollitt et al. 1978); not only is the number of children in a preschool educational institution small, but such children also mostly belong to the privileged social classes. The preschool institution is a class institution. I conclude from this that it must be regarded as a luxury and not as a real necessity. It is not surprising in this context that the sociophilanthropic movement is still a central philosophical and institutional base for early intervention and child care programs (Halpern 1980).

In the West European countries, it may be estimated that more than half the children between the ages of 3 and 6 (50–60% of all children) have had some form of preschool education before going to primary school. The network of current preschool facilities is almost as wide as the whole network of primary schools and preschool education is constantly being extended to younger age groups. In France, for example, 40% of the 2-year-olds are already in educational institutions (nursery schools or day nurseries). In many countries, the system of care (various types of day nurseries, nurses, and family fostering arrangements) for babies and children under 3 is a growing sector and an estimated 15% of the children in this age group are regularly looked after for more or less long periods by care services. The increasingly widespread use of preschool services and the extension of the network of nursery schools are accomplished by a change in the social composition of the users, which has become very mixed, and in the function of preschool institutions. Children from all social backgrounds now attend nursery schools that used to be almost exclusively attended by working-class children. Middle-class families are no longer willing to pay for a separate private care and educational service and claim their right to use the public services that they help to finance anyway through taxes. With the arrival in the nursery schools of a large infant population belonging to the wealthier classes of society, the social and welfare function of preschool education has lost ground and its educational function is expanding. The same process is taking place in the day nurseries that were primarily auxiliary health and welfare institutions reserved for children of unsettled families or special welfare cases.

The middle classes are taking more and more interest in day nurseries and this attitude has been responsible for the growing number of services and for changes in the practices and operating methods of all the infant care and welfare services, which have taken on an increasing educational role.

In short, preschool services in these countries are neither regarded as a "makeshift" solution by workers who are unable to mind and bring up their own children, nor as a luxury by the middle classes, who wish to provide their children with the best conditions for their development likely to enhance their advantages and social status. Childhood facilities are regarded as a public service available to all families and as an educational service that has become indispensable. However, the increasing interest shown in these services by the richest socioeconomic groups is in the process of changing this situation and is accompanied by repercussions on the functioning and actual conception of preschool education that may well marginalize working-class children in the nursery schools and deprive them of a service that was originally created for them. Developments in the relations between preschool and primary education must be viewed in the light of these changes. European experience is very revealing in this respect as the following considerations show.

Place of the Nursery School in the Orbit of the Educational System

Developments in Preschool Education

Before interpreting the development of preschool education in Europe, a few further figures are needed to show the differences between one country and another. At the start of the 1980s, the following general situations prevailed: countries where preschool education for children between the ages 3 and 5 is almost universal — Belgium, France, Luxembourg, and the Netherlands; countries with a moderate rate of preschool education — around 60–70% in Germany and Italy, about 30–40% in Austria, Ireland, Spain, the United Kingdom, and Switzerland; the Nordic countries — Norway, Sweden, and Finland, where the rates of preschool enrollment are relatively low (about 20%), but that have adopted advanced policies concerning facilities and apply very high standards of quality unequalled by other countries; and countries, mostly Mediterranean, where there is little preschool education (Portugal, Greece, Turkey, and Yugoslavia).

This grouping calls for one or two comments. First, there is an evident disparity between countries. Side by side with those that have nursery schools everywhere, there are others that have almost none. In the former, preschool education is so common as to be almost compulsory. As a result of widespread nursery school attendance, it has become a necessity and a moral "obligation" for parents to send their children to these institutions instead of keeping them at home, to ensure that they will not have any difficulties when they start their basic schooling. In countries with few nursery schools, there is a very great demand for facilities and the authorities are subjected to much pressure from the population to provide them.

Second, these findings are only relatively interesting and even rather commonplace in themselves. On the contrary, what is much more significant is the trend that has led up to this situation and can be followed through the fluctuations in the rates of preschool enrollment. Two facts deserve recording in this connection: first, progress has been made everywhere, both in countries that are in the forefront of preschool education and in those that have fallen behind; second, progress has been very rapid in certain countries such as Germany, Denmark, and Austria (+30% between 1970 and 1980), Sweden (+20%), Norway (+15%) and Italy (+10%). It has been still more spectacular if considered over the longer term: in Austria, for example, the number of children attending nursery schools was 28 168 in 1923 24; it was 162 502 in 1979 80, although the population had not increased and there were even fewer children. In France, in 1925, only 14% of the school population had attended a nursery school (Prost 1968), but by 1980 this rate had risen to 95%.

Third, in the United Kingdom, where there are not so many preschool institutions, the same trend has developed with the phenomenal expansion of the part-time playgroups started unofficially by parents to give 2 4-year-old children somewhere to play together under supervision. They began in the early 1960s and by 1979 they were estimated to be taking more than 400 000 children. These figures entitle us to speak of a real European passion for preschool education, which has made giant strides in the last 20 years.

Fourth, apart from the differences noted in these statistics, there are others, especially of an organizational nature, that are just as great. But the common denominator among all these countries is, nonetheless, the general tendency for preschool services to expand. The figures given here on rates of preschool enrollment are underestimated. In actual fact, the number of children receiving some form of preschool education outside their own families is greater than indicated by the statistics, which concern enrollments in state or semistate institutions (a case in point is the United Kingdom, where it is estimated that 70% of children take part in educational activities before starting school at 5 years of age, but only 30% are enrolled in state nursery schools or classes). All of these observations prove that preschool education is in the process of spreading throughout Europe, that this process is very far advanced, and that this widespread enrollment of young children is on the same scale as the incorporation of older children in the school system 100 years ago when compulsory basic education was introduced.

Consequences of the Popularity of Preschool Education

Many educational, social, economic, and political factors combine to explain the emergence and acceleration of this process (Ariès 1973; Bernstein 1975; Boltanski 1969; Chamboredon and Prévot 1973; Donzelot 1977; Meyer 1977; OECD CERI 1977; Shorter 1975; Tizard et al. 1976). It is certainly too soon to assess the implications, especially as the growth of preschooling has by no means ended. However, in view of our interest in the educational aspects, we must consider its repercussions on the organization of the educational system at large, as well as its methods of operation and particularly its special pedagogical practices.

From this standpoint, the main consequence of the success of preschool education is that it is now no longer marginal to the educational system and has been integrated as a subsystem into the school structure. Before it took momentum, around 1960, the nursery school was a relatively marginal institution within the educational system. Because of this, it was not subject to the administrative and pedagogical constraints that have been imposed by state intervention in the educational sector and were considered necessary to forge a state and national system of education. When it was on the periphery of the educational system and concerned a small number of children and families, the preschool system enjoyed a high degree of autonomy for several years and this helped to produce an original form of teaching on which most preschool curricula are still based today (Platone 1979).

The corollary of this situation was an almost general lack of interest in the preschool world. No consistent interest was shown in its problems

by the government, the political parties, the trade unions, or researchers. The nursery school was a world apart that benefited and at the same time suffered from this state of isolation.

With the increase in enrollments, classes, and staff and the growth of running costs, this isolation had become meaningless. It was no longer possible to ignore the increasing flow of children entering these schools, nor the pressure of demand from every social class. This marked the end of independence. Many eyes are now turning to the nursery school, which has become an area of conflicting interests (OECD CERI 1981) as well as the object of a momentous political gamble (the history of the Head Start project in the United States is very significant in this connection). The abrupt growth of the preschool sector has been like a gigantic wave breaking all of a sudden on a calm tidy beach; it has created a crisis for the structures, aims, and methods of the old style of preschool education (Bottani 1981). In becoming popular, the preschool sector has lost its autonomy and fallen within the sphere of influence of the educational system. This development is not owing primarily to any administrative reform, but rather to the formidable social upheaval caused by the mass entry into the kindergartens of age groups of children belonging to socioeconomic sectors that play a culturally predominant role in society. The growing interest in preschool education among the middle classes, which have a well-nigh exclusive monopoly of the production of academic culture (the one recognized by the educational system), is shifting the balance between the functions of preschool education, the way its activities are designed, and its status within the educational system. The educational function is beginning to predominate with the main consequence that the nursery schools are no longer places where children are minded and looked after but have become branches of the educational system and institutions that prepare children for school education, with the consequent risk of becoming places where the latter are preselected in accordance with their social and cultural background (Burguière 1978; Platone 1979). It is in this context that the problems of the profitability of preschool education and its relations with the primary sector, and more broadly with the continuity of education, stand out as central themes in the pedagogical debate and in research and development programs.

One of the solutions considered in response to the identity crisis in preschool education is to attach it to primary education. The other is to improve the coordination of the administrative organization of childhood services.

The two solutions are not similar but have a common identical aim, which is to create a broad coherent field of education in which teachers can perform their function with the minimum of opposition and the maximum chance of success.

I shall consider the educational solution alone because we are mainly interested here in educational problems and because, in doing so, we may identify some of the trends that will affect the future development of the educational system.

The Plea for Continuity

For various reasons that it would be interesting to examine in detail but that cannot be considered here, the idea of a more organic link between preschool and primary education is the one with which specialists of preschool education have been most concerned recently. During the past decade, the Council of Europe has held three symposia on this subject: Venice 1971; Versailles 1975, and Bournemouth 1977 (Council of Europe 1979). In general, it is agreed that there are considerable differences between the pedagogical philosophy of preschool education and primary education; these two types of education are apparently guided by different doctrines that prevent pedagogical continuity being established between them, with regrettable consequences for children as regards the education provided (Woodhead 1979). In other words, preschool education is resisting the pressures put on it to reconsider its own vocation and comply with the demands of primary education. This resistance takes three forms:

(a) Teachers: In most countries, preschool personnel have a lower status than primary teachers and this legal situation is a great obstacle to cooperation between the two categories of staff and to any chance of mobility between the two types of teaching (Corbett 1981; Woodhead 1979). Except for a few countries, such as France, the recruitment requirements are not the same; basic preschool staff training is shorter than for primary teachers and opportunities for in-service continuing training are fewer; the range of career prospects is narrower in the case of preschool staff and pay is lower; working conditions in preschool education are harder because teachers have to reckon with longer working hours and shorter holidays. Finally, with very few exceptions (France), the union and professional organization of the two teaching bodies is not the same and this definitely handicaps preschool staff who are less numerous than their primary school colleagues, have, therefore, less bargaining power

and are weaker when they have to defend or voice their own interests.

This state of affairs is apparently not beyond remedy: it could be ended simply by giving preschool staff the same status. This is the case in France, for example, where nursery school teachers have the same status as primary teachers: they belong to the same corps of civil servants, are paid the some salaries, have the same working hours, and undergo the same occupational training. If judged by some of the results, these tactics have been quite successful and have definitely facilitated a certain alignment between preschool and primary education, as is shown by research on the risks of surreptitious educational preselection in nursery schools (CRESAS 1974).

Although there is official resistance to any strictly educational activity in nursery schools and the specific nature of preschool education is still proclaimed, there is in practice an increasing trend toward osmosis between the two levels (statement by the Minister of Education, R. Haby, at the Council of Europe Symposium on Pre-School Education held in Versailles in 1975), which is not always to the children's advantage (CRESAS 1978).

However, this result was also possible because of the influence of other factors that are peculiar to the French situation but too numerous to enumerate here. It cannot, therefore, be stated with complete certainty that granting the same staff status and the same salaries is sufficient in itself to eliminate the divisions between preschool and primary education.

(b) School curricula: There is considerable antagonism on this point. Preschool teaching is usually liberal and allows educators great freedom with the aim of fostering the harmonious development of children in a warm human climate through a series of loosely structured experiences in a highly stimulating environment. Although school teaching has changed a great deal, it has remained more restrictive and nominative, and teachers are less free to follow the children's interests as they are obliged to comply with timetables, attain certain targets, operate within a set structure, and grade the children (Bernstein 1975). There is only one way of establishing continuity, i.e., by devising a single curriculum that is common both to preschool and to primary education. These tactics are employed in several recent curriculum reforms and in several preschool education experiments. On the one side, the invisible preschool pedagogy is tending to spill over into the primary school, as may be perceived from the changes made in the methods of teaching reading and writing, whereas, on the other side, the rigid school curricula, observation grids, and sophisticated grading methods of the contemporary psychopedagogical arsenal are making ever deeper inroads into the nursery schools, as may be seen in many experiments of compensatory education that are based on structured programs of cognitive stimulation or early learning and in the development of preschool curricula based on or reflective of Piaget's theory, but in a very ambiguous way (Kamii and Devries n.d.).

Two opposing movements, therefore, exist side by side, both designed to establish continuity between school and preschool education either by using formal teaching methods to give specific shape to the empirical assumptions underlying a great deal of preschool pedagogy or by applying the spontaneous and nondirective principles of preschool education to school teaching. This transmission of the practices and methods of one sector to the other has not so far been applied on any large scale and very little is known about its effects either on children or on the different variables in the school and preschool environment. A third possible alternative in which a special preschool curriculum is based on real-life situations (Zimmer 1973) seems much more interesting. This course has been taken in particular in Germany, where new preschool methods have been devised to dislodge learning and experience from the school or semischool "ghettos" in which they are isolated (Zimmer 1975), while avoiding the vagueness of the naive in situ experiments characteristic of spontaneous or nondirective approaches. However, there is nothing to prove that this method can offer any better way of linking the preschool and primary sectors of the educational system.

(b) Administrative structures: In practically no country is the preschool sector organized in the same way as the primary sector, and this is a source of many difficulties whenever adjustments are being considered with a view to bringing the two sectors closer together.

Primary education, even in countries with a federal tradition such as Switzerland and Germany, is a homogeneous service governed by a single body of legislation that lays down its methods of operation, curricula, and objectives. Compulsory schooling is one of the pillars of the state educational system and the state as teacher wields its authority through it. State supervision of the educational world is constant and exercised through the system of continuous supervision that is an integral part of any educational system. Preschool education, which is not

monopolized by the state, is much more heterogeneous and much less rigid than primary education. Local authorities have more control over the development and management of facilities and are often not even obliged to provide childcare and educational institutions for young children. This state of affairs has two consequences: the first is a great variety of facilities and the second is the importance which private initiative still retains in the preschool sector.

Different types of preschool institutions may exist side by side in the same country and depend on different authorities, but compulsory schooling is a standard system and subject everywhere to the same authority.

In Italy, there are three types of nursery school, run, respectively, by the state, the local authorities, and the private sector. In 1976, only 19.7% of all children between the ages of 3 and 5 went to state nursery schools, whereas 46.5% went to private schools. In the United Kingdom, the wide range of preschool institutions is even more astonishing: in the state sector, there are nursery schools under the local education authorities (LEAs), LEA nursery classes attached to primary schools and day nurseries; in the private sector, there are playgroups, which are by far the facilities most utilized, day nurseries, and nursery schools. An equally wide variety of alternatives exists in other countries such as Germany, Switzerland, and Denmark. The variety of structures combined with the distribution of administrative responsibility between authorities situated at different levels makes it a very complicated matter to change the organization of the preschool sector and obtain greater equality of service by linking it more organically to the educational system.

Combining administrative responsibility under a single Ministry in no way changes the problem. In any case, in most European countries, it is the ministries of education (at both central and regional levels) that supervise preschool education (Germany, Austria, Belgium, France, Ireland, Iceland, Italy, Luxembourg, the Netherlands, Portugal, and Switzerland), but their tutelage covers parallel institutions controlled by different administrative departments that are often jealous of their powers and still more of their educational theories, and there has not been any unifying effect worth speaking of. In the Nordic countries, supervision of preschool education is a monopoly of the ministries of social affairs (Finland, Norway, and Sweden) and one can well imagine the frictions that must occur when a child moves up from preschool to primary education, where the institutions are under ministry of education control. A few countries have mixed solutions, with competing ministries (usually the ministries of social affairs, health, labour, and education) supervising parallel preschool services for children of the same age group (Cyprus, Denmark, Greece, Spain, Turkey, and the United Kingdom). In these cases, the difficulties of coordination are almost insurmountable.

In the absence of agreement on any preschool staff training and qualifications, and because there are not only no teaching methods suited to the new social and cultural situation and based on specific common objectives and no administrative reform likely to unify the preschool structures, there is little hope of ever completely linking preschool to primary education. Accordingly, there are only two possible solutions: either the promotion of educational continuity is dropped altogether as impracticable and utopian, or radical action is taken. Certain countries have decided on this second course by creating a new type of school for children aged 4–8 that merges the nursery school with the first few years of primary school and bridges the gap between the two.

The Geneva "Fluidity" Experiment

To understand this experiment, it must be remembered that Geneva is at the very antipodes of most of the geopolitical situations in Latin America. It is a very wealthy city, a tiny republic of 500 000 people that can be crossed in half an hour and has almost luxurious educational facilities, highly qualified and also very well paid teachers (probably among the highest paid in Europe), a remarkable pedagogical tradition (Claparède, Bovet, Ferrière, Dottrens), and the Institut Jean-Jacques Rousseau and Piaget. It is thanks to all of these factors combined that this experiment could be devised and launched as the prelude to the creation of a new school structure called the elementary division and intended for all children between the ages of 4 and 8.

The authorities' decision to alter procedure at the start of the basic compulsory schooling stage by making changes in school structures, work organization, curricula, equipment, teacher training, and pupil teacher ratios was owing to the very poor performance achieved by children particularly in learning to read and from a desire to take further advantage of preschool education to facilitate the adjustment of the children to the school environment.

In Geneva, the number of repeaters in the first 2 years of basic schooling is about 6% and it has been observed that at least 25% of children in

their first year have socioemotive difficulties in settling into classroom life in spite of the fact that most of them have already been to nursery school for 1 or 2 years.

On examining this situation, the educational authorities concluded that pupils' learning difficulties were owing to the absence of fluidity in their schooling (i.e., the absence of pedagogical continuity). They, therefore, decided to finance research on improving the links between nursery and primary school as part of their campaign to remedy inequality in the children's chances of educational success. The experiment was confined to 30 classes (about 700 pupils) and began with the school year 1974–75, terminating in June 1977. It was considered sufficiently positive (the results will be seen later) for the authorities to decide to begin progressively extending the "fluidity" approach in autumn 1978 (Feyler 1978). The characteristics of this experiment were as follows (Hutin 1979).

Teachers were asked to observe each child systematically to detect his or her learning difficulties. The underlying theory of the "fluidity" experiment is to differentiate teaching in accordance with each child's individual needs. Its aim is to determine the optimum conditions under which each individual child will derive the maximum benefit from the first few years at school. It does not try to organize remedial action, but advocates the utmost differentiation in teaching methods. A knowledge of each child is, therefore, the essential prerequisite of this approach as opposed to the prevailing practice of traditional teaching, based on a profile of the average pupil who is supposed to be representative of the whole class.

The work done and the ensuing discussions revealed the difficulties experienced by teachers in observing children and discovering each child's abilities and capacity. A method was devised for systematically observing pupils to obtain a more thorough knowledge of each individual. It was designed for use by teachers themselves, giving them information that they could put into direct practical application. The main characteristic of this method of observation is that it is not a fine analytical grid of the type used by psychologists. It has to be used flexibly in the classroom during the daily work routine and should draw the attention of teachers to a number of points that reveal the differences between children.

Teaching is differentiated when a child transfers to the first primary year. A support arrangement has been introduced whereby nursery school teachers work half-time with primary teachers. One support teacher is available for every six classes.

The support teacher works 5 half-days per week. Four mornings are spent on support proper and half a day each week is set aside for examining the problems of support strategies, discussing individual cases, working out appropriate teaching methods, and preparing suitable equipment in association with researchers and the school authorities.

Support teachers have their own room where groups of two to four pupils are received for a period of 20 to 45 minutes. Much importance is attached to close liaison between the class teacher and the support teacher. At certain times, the latter even works in the classroom.

The researchers have been cautious in their assessment of the results obtained. The experiment enabled the number of repeaters to be reduced by more than half and to be replaced by support teaching, and this was considered satisfactory. But the number of repeaters did not fall because of improved educational performance but as a result of an administrative decision that made it automatic for all pupils to pass up from the first to the second year and abolished the reading test at the end of the first year that had formerly been the main means of selection.

As regards educational performance itself, however, the check group was always above the "fluidity" group in all the tests, and the pupils had similar gradings in both groups whatever the tests. In short, the "fluidity" approach has so far been mainly effective in improving the adjustment of the pupils to the school environment, in partly reducing their learning difficulties, and in inducing teachers to overhaul their teaching methods completely.

The Netherlands and Belgian Experiment

It is interesting first to note that the radical solution of merging nursery and primary school either by creating a new institution or by absorbing the preschool sector's share of primary education is also being tried out in two countries (the Netherlands and Belgium) where conditions are very similar to those in Geneva: they are small countries with no geographical barriers, very easy communications, economies that were still flourishing until recently, and almost complete preschool enrollment of all 4–6-year-olds. This situation explains why all three countries have a common interest in wanting to secure better results from the early school years by reducing repeat rates.

The Netherlands (Cebeon 1979) has been experimenting since school year 1974–75 with a

new type of primary school for 4–12-year-old children that eliminates the present gap between the nursery school for children aged 4–6 and the primary school for those between 6 and 12 years of age (Ministry of Education 1975). About 150 schools have so far taken part in the experiment, which has given rise to unusual cooperation and participation by all concerned and an impressive range of methodological experiments, educational schemes, research activities, and assessment practices. As was the case in Geneva, it is difficult for the moment to judge the results obtained and whether or not the new school meets the hope that the formal institutional process of educating children will finally be significantly modified. According to an evaluation report (Cebeon 1979), only 35% of the schools considered that they now paid more attention to individual differences between children; 41% said that their attitude had not changed in this respect. Nevertheless, the Netherlands has decided to move toward complete integration of preschool with primary education in 1983 and has launched an immense reform process affecting 8300 primary classes and 6800 nursery schools, 2 million children and 70 000 teachers that should completely change the structure of basic education within about 10 years.

In Belgium, a similar merging of the nursery school with the initial years of primary education into a new 4–8-year-old cycle is under way with the aim of harmonizing the transition from nursery to primary school and appreciably reducing repeats and poor school performance. The main feature of the experiment is the organization of new school units of at least 50 children between 5 and 8 years of age supervised by a teaching team necessarily comprising for each group of 30 children a nursery school teacher, a primary school teacher (man or woman), and an extra teacher for each additional group of pupils above 30.

The experiment took place between September 1976 and June 1979 and included 39 schools. In the Belgian authorities' view, this experiment is only one aspect of a more ambitious educational reform that plans to renew the entire educational process by creating a basic school to provide a continuing education divided into three cycles: a first cycle from the age of 2½ to 5 years, a second cycle from 5 to 8, and a third cycle from 8 to 12 (OECD 1978).

The first evaluation report comes to the same conclusions as those on the Genevan and Dutch experiments: teachers and researchers showed great drive and enthusiasm, pupils' difficulties were determined more effectively, and greater attention was paid to their differences, with the subsequent adoption of personalized teaching methods. However, nearly a quarter of these institutions consider that the reforms have not sufficiently reduced the obstacles between preschool and primary education because the action taken was largely administrative and did not really settle the underlying problem.

Considerable misgivings were expressed by preschool educators who feared that the new schools would finally adopt the stereotyped pattern of existing primary schools and that the reform would merely turn into a process for the early enrollment of young children. Primary education, reinforced by the experiment would be the gainer and the nursery school the loser. Its individual style and type of teaching would disappear and there would be no other chance of influencing or changing educational habits and practices.

Conclusions

There are many historical examples of attempts to amalgamate countries, but few have succeeded. In most cases the union has been short-lived, and the upsurge of brotherly feeling between the peoples concerned has often ended rapidly in disappointment. Indeed, it is easy to remove frontiers by decree; it is a much more complicated matter to create unity, remove prejudices, overcome mistrust, and achieve sincere cooperation between groups with different interests. With all due reservations, the relations between preschool and primary education are open to the same analysis as those between two neighbouring countries with common interests. They are obliged as a matter of course to negotiate lines of communication that will largely depend on the balance of power between them.

At the present point in the development of the educational system, a renegotiation of the relations between the preschool and primary sectors is of immediate importance because the balance between the two "powers" has changed or is in the process of changing as a result of the disruption caused by expansion or by operational difficulties in both types of school.

Preschool education is undergoing a crisis because it is in full process of growth, and this has disrupted some or all of its functions. Its practices, teaching methods, and organization no longer meet the needs of its users and do not respond to the social and educational pressures it is subjected to, so that questions are constantly

being asked about its utility, efficiency, and necessity. It is in fact urgent to redesign the preschool institution, both in countries where it is now highly developed and in those where it is still in an embryonic stage, for neither the old philanthropic welfare model nor the educational model applied in some sections of contemporary preschool education is in a position to offer solutions to these difficulties.

Primary education is also in a crisis because it is not clear about its own objectives and methods. In the controversy over poor school performance, the primary school is censured for its inability to cope with the wide variety of its pupils and criticism focuses on the limitations of teaching methods based on compulsory uniform curricula. Criticism concerning standards of performance has not only revealed the ambiguity of educational objectives as at present defined but also pointed out the weakness of the teaching methods available to tackle the problem of giving children the basic skills for acquiring knowledge. The primary school model, geared to cognitive development, is disputed because it is reductive and unfair, grading pupils who are not on an equal footing, whereas the primary school model, geared to personality development, is criticized for its poor performance in teaching the basic skills.

So long as preschool and primary education are in difficulties they cannot develop and face the challenge of a constantly changing social and economic environment. They must overcome their crisis as rapidly as possible. The action taken to influence the relations between preschool and primary education may be interpreted as signs of this emergency. Both in politics and in married life, there are several possible strategies for overcoming a crisis. The same applies to education. In the light of the preceding comments on the relations between preschool and primary education, I feel that the following issues are the most conceivable:

(a) The most popular way of solving difficulties is to spread and extend the conflict and seek a scapegoat. This is a negative solution; it ignores the internal causes of problems and difficulties and tries to project a responsibility on an outside source. The sector with the strongest structure and the greatest influence ends up by winning and consolidates its internal order and equilibrium at the expense of the weaker sectors. This procedure may be readily observed in the way basic education has developed. The parents and the nursery school are accused, each in their turn, by the primary school of being uncooperative and inadequate educators and are criticized because they do not play the intermediate role that might be expected of them and, thereby, facilitate the tasks of the primary school. Therefore, the parents' education and subsequently the introduction of structured cognitive curricula within the preschool education are considered as the core of the reform programs.

(b) The attitude of primary education in its relations with preschool education is neither one of hostility nor cooperation, but one of continuity and is designed to integrate the preschool phase into the formal educational system. Pursuing the political metaphor, it might be said that primary education tries to settle its problems by colonizing preschool education, forcing it to adopt its own objectives, methods of work, organizational pattern, and staff through sweeping administrative and bureaucratic reforms. The mechanisms and structures of the school are changed, but not the substance, i.e., educational practices and traditions. This solution has gained favour because it seems to be the most innovative, the simplest, and the most profitable for the different groups concerned. It is, therefore, supported by a very mixed coalition of different pressure groups all directly interested in its success: preschool teachers anxious to improve their pay and career prospects; primary teachers who hope their teaching difficulties will be solved if they receive pupils with a better preparation; research workers who feel that it provides them with vast areas of research that have become necessary to evaluate experience, establish curricula, and find out more about formal learning processes; middle-class parents who are ready to make any sacrifice on behalf of their childrens' education; and the administrators of primary education who are normally in favour of any coordination-oriented reform because they hope in this way to extend their authority or sphere of influence.

(c) The chances of success of this type of reform cannot be taken for granted, as is demonstrated by the difficulties encountered in reviewing the status of preschool teachers, curricula, or structures and in carrying out the more innovative experiments. Paradoxically enough, the children themselves are the main cause of these difficulties. They play the classical role here of the grain of sand that prevents the machine from working properly.

The childrens' resistance to reform is of course passive and almost subconscious, but it can also be violent as in the acts of vandalism in school buildings committed by very young pupils. This resistance has two origins: (a) it stems from their refusal to go through the process calculated to

change the child into a pupil and (b) it sabotages the professionalization of childhood (Chamboredon and Prévot 1975), the attempt to isolate the children in a protected and closed space. In this perspective we have to take in account more seriously the difficulties of childrens' education avoiding considering these difficulties only individually as handicaps that can be corrected or compensated.

Taking the opposite view, we may say that the continuity solution is questionable if it involves: (a) the subordination of childrens' interests to those of the institution and (b) a theory and definition of childhood that repudiate spontaneity and imagination, rationalize all the learning processes, codify the stages and rhythms of growth, and merge play with work.

The popularity of the theme of continuity is based on an illusion of pedagogical omnipotence and a theory of childhood that purports to offer instruments for methodical and apparently effective observation and action in the child's world. Its success stems from the belief that it is possible to change children (children change naturally in any case in the course of their development), that their growth can be channelled and stimulated and even accelerated and that action must be taken as early as possible in the interests of education.

No substantial progress of any kind in the field of early childhood education will be made if instead of beginning to change the school we persist in trying to change children.

It cannot be ruled out that the professionals of human services armed with a panoply of instruments and plans for early intervention will finally triumph over the children and produce well-behaved, disciplined pupils. Specialists of all kinds may win the game. But winning the match, i.e., making every child into a responsible and independent citizen, respected, vigilant, and conscious of his or her rights, is quite another story. You may win one game or two games but lose the match if you persist in trying to change children without at the same time changing the school. I do not believe that that should be our aim.

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Compensatory Measures in Poor Areas: Some Possibilities for Preschool Education

Carmen Luz Latorre[1]

Introduction

Despite high growth rates over the last 2 decades, estimates indicate that 27% of the population in Latin America lives in severe poverty (ILPES 1978). While some authors view poverty as the logical result of the transition from a traditional to a modern economy (Mercado et al. 1968), others see it as stemming from the ways in which capital is accumulated in these economies (Cardoso 1971; Nun 1969). This study subscribes to the latter view but takes the position that until structural reforms are made to correct the underlying causes of poverty, action can and must be taken to improve the lot of disadvantaged groups. This study will concentrate on the work that can be done in the field of marginal preschool education and in the primary education system in terms of readapting this system so that it benefits the very poorest sectors and, consequently, society as a whole.

Typically, the poor have been characterized as resigned, conformist, and unconcerned about the future and with a strong tendency toward only satisfying the most immediate needs (Martinic 1979). It would be difficult to implement policies designed to bring about major changes in the lives of people having these characteristics. However, this profile of the poor is not accurate. A study done in a marginal area of Santiago (Cortazar et al. 1976) shows that most residents are highly dissatisfied with their lives, have a clear idea of the fundamental causes of their situation, and do tend to make plans for the future. Some 30% did, however, reflect the characteristics often associated with poverty.[2]

There has been much discussion and debate about the different ways of measuring poverty and the level below which poverty would be said to be "critical" (Altimir 1978; Franco 1977), but there is widespread agreement that the magnitude of this problem is enormous.[3]

Studies conducted in poor sectors of Chile (Cortazar 1977) show that 9% of the families do not satisfy any of the basic needs (nutrition, health, education, and housing). However, there is no universal state of poverty and the degree to which basic needs go unsatisfied varies, depending on the need that is being analyzed. Using a summary index that gives equal weight to indicators like nutrition, health, education, and housing, it was found that in 45% of the homes, basic needs were not met. Poverty deeply affects young children because they are the ones who are most vulnerable when their basic needs are not met.

The poverty in which large numbers of people in the region live make it impossible to provide children with the basic elements for their development: health, nutrition, and psychosocial stimulation. The results are high rates of child morbidity and mortality, poor intellectual development, and malnutrition (Mauras et al. 1979). Children affected by these problems perform poorly in school and this, in turn, limits future job opportunities. In terms of development in Latin American countries, this overall situation represents a tremendous loss of human potential (Selowsky 1979). Many studies have stressed the importance of early intelligence quotient (IQ) levels later in a person's life. In his study on the most important follow-up studies done in the United States over a 60-year period, Bloom (1964) concludes that in terms of intelligence measured at the age of 17, at least 20% of intelligence is developed by age 1, 50% by age 4, and 80% by age 8.

[1]Programa Interdisciplinario de Investigaciones Educativas (PIIE), Brown Sur 247, Santiago, Chile.

[2]These characteristics should be taken into account when designing compensatory measures.

[3]Estimates are based on the Family Budget Survey 1968–69 of the Statistics and Census Bureau.

Thus, it is important to do research on preschools as possible mechanisms for preventing intellectual impairment and nutritional damage and for furthering the development of certain skills and abilities.

A look at the development of preschool systems in this century reveals that for the most part they have been a response to the economic necessities of development. Industrialization led to the creation of nurseries. The increasing number of women who joined the work force, together with the decline of the extended family brought about by rural-urban migration, made it necessary for there to be places where children could be cared for – that is, where they could be physically watched over. Later, with the boom in education, nursery schools and preprimary programs appeared. These schools are designed to develop children's intellectual capacity so that they will do well when they enter primary school.

Preprimary schools have undergone great expansion above all in the last decades; enrollment went from 0.9 million in 1960 to 1.6 million in 1970 and reached 2.3 million in 1975. In spite of this expansion, no more than 10% of the population between the ages of 0-6 is covered by a preschool program (UNESCO 1977). Studies done in the 1970s reveal that both preprimary and nursery care are basically urban in nature and cater to the relatively well-off.

As part of the general shift in concern during the early 70s toward disadvantaged groups, directors of public preprimary programs began a reassessment aimed at increasing the enrollment of poor children in these programs. Special programs were begun to offset the consequences of physical and mental privations in 0-2 year-old children (early stimulation programs). A large number of integral care pilot programs were also set up because they were less expensive than formal programs and, therefore, could potentially be used on a mass scale. Direct community participation was an integral part of all these different programs; members of the community worked actively on programs and also benefited from them. Consequently, programs were more in touch with the real situation in communities. Pilot program coverage is, however, still limited; these programs perpetuate themselves where they started, with no attempt to replicate and or adapt them to other areas.

Although some evaluations of nonformal programs have been made, they concentrate on the effort put into them and present only some measurement of their effectiveness. Generally speaking, however, they are based more on opinion than on measured impact. Those few measurements that are made deal with cognitive aspects of child development. Little work has been done to document the effects of programs on families and the community.

The seminar on preschool education in marginal sectors, sponsored by the Bernard Van Leer Foundation in 1979, came to the conclusion that effective, lasting results can only be obtained from this type of education with the direct participation of the family and the community (Bernard Van Leer Foundation 1979). Therefore, the need to study the effects of programs on these groups and to explore the extent to which they are involved and continue to work on the programs is even more urgent. Program reports rarely give information on cost; costs are only mentioned in terms of what a specific item cost at a given time. Because inflation runs high in most countries in the region, this "historical" approach to cost does not reflect the real economics of program implementation. Furthermore, records of operating costs usually include direct program costs (staff salaries, equipment, and materials), but do not take into account resources and nonmonetary types of contributions made by families and the community. It is clear that these resources must be included because they could have been used for different purposes and do represent an outlay to society.

Therefore, every country must decide which preschool system, or combination of systems, would best meet its needs and be implemented on a large scale for preschool children from marginal communities.

Formal preschool programs cannot be implemented on a mass scale over the short and medium terms in marginal zones for several reasons: they are expensive, there is a dearth of qualified people to work on them, and because they are not a natural creation of the community itself, their effectiveness is limited. Therefore, nonformal preschool programs already operating in the region must be considered as possibilities that deserve careful study. Basic information on these programs must be gathered and should include their effects and cost.

With this information, based on a coherent and coordinated methodology, it will be possible to compare programs and explore the likelihood of replicating them in other contexts. Latin American countries must work together to find solutions to common problems such as preschool education for marginal children. Owing to ethnic, geographic, and other factors, poverty takes many different forms within a country; so a single preschool system will not do for the whole country.

The restricted resources available for extensive investment and, specifically, education, health, and housing in Latin America make it necessary to establish very definite criteria for setting priorities within the subpopulations where services are to be provided. This assumes an in-depth knowledge of these communities to select the most suitable systems for them.

Progress Made in the Knowledge of Preschool Education in Chile[4]

In view of the situation described, the decision was made to do an integral evaluation of preschool programs in marginal communities to determine the best combinations of systems. In 1979, with the United Nations Children's Fund (UNICEF) assistance, three nonformal preschool systems were evaluated in Chile: the Preschool Plaza, the Parent-Children Program (PCP), and the Early Stimulation Program (Latorre and Magendzo, in press).

Aside from the basic information on preschool programs, another important outcome of this work was the model for evaluation that was developed.

The model incorporates several different types of action: levels of contact (how evaluating team members established contact with programs), and evaluation categories used at each level of contact. The levels of contact are: approach, interaction, and involvement; the categories are: effort, effectiveness, and conditioning factors (Magendzo and Latorre 1979).

A summary of evaluation findings regarding effort and cost for each program is presented here (a) to underscore the importance of being thoroughly familiar with the advantages and limitations of each program and (b) to provide the basis for understanding the combination of systems proposed later for use in marginal sectors of Chile.

Each program is analyzed in terms of the effort and social costs of implementation (Latorre and Magendzo, in press).

Preschool Plaza

Effort: This program is a model of nontraditional preschool education developed in a low-income area (La Victoria). The program involves the construction of a plaza equipped with educational materials designed to stimulate the development of preschoolers. The program provides an alternative to traditional preschool programs as regards its physical structure, educational methods, construction, and operating costs. One important program feature is the training of people from the community as monitors who work as educators with the children.

The program began in 1975. Because it is basically outdoors (in the "plaza," or yard), members of the community and program directors decided that in winter the program would be carried out in private homes keeping the ratio of about 10–15 children for every monitor.

The plaza program stresses cognitive curriculum during the summer season and traditional curriculum during the winter season. The children's health is continually monitored and they receive nutritional food that meets their calorie-protein needs.

To operate, the Plaza program needs: (a) a constant source of financial support to pay for staff salaries, supplies, and part of the food. At present, the preschool Foundation is providing these funds; (b) community contributions in the form of building materials and maintenance services and private homes where the program can function during the cold season and mothers willing to prepare the children's food every day and to help organize certain aspects of the program through group delegates; and (c) food contributions made by some agency. At present the OFASA (Adventist Philanthropic Organization) is providing food; and (d) playgrounds, instructors, and other areas provided by community organizations.

The program target population includes: (a) children between the ages of 2 years 8 months and 6 years who are chosen on the basis of family socioeconomic conditions and the child's nutritional health; the poorest children receive admission priority. These children are chosen because it is assumed that preschools help prevent a child falling behind in terms of his or her development and enable children to perform better at school, and (b) youngsters in their teens from the community who are chosen and trained to teach and care for the children.

The idea of selecting people from the community to work on the program is based on the fact that they will be able to establish better communication with the children and will have a greater understanding of their problems. The monitors are hired for 2-year periods so that as many of them as possible can have the work experience. Because the future of the children from their own

[4]This presents the findings of several PIIE studies done on this topic that provide the base for the financial estimates referred to under "Specific Measures," later on in this text.

neighbourhood is at stake, monitors tend to have a deeper commitment to the program.

Cost: Annual program social costs reach US$54 449.14. This breaks down to US$320.29 (per child attending) and US$272.25 (for each child enrolled). As a point of reference it is interesting to note that the cost of preprimary courses given by the Ministry of Education is US$127.11 (this does not include food) and those given by the National Board of Preschools cost US$337.84 for a program with 96 children and US$361.33 for a program with 216 children (Filp and Latorre 1978). Although these different figures cannot be directly compared, it would appear that the alternative programs are not, at least from the social standpoint, much less expensive than the others. However, it is important to point out that the Preschool Foundation covers 83% of costs; the rest is covered by the community and other organizations. The National Board of Preschools covers 100% of costs but has been unable to involve the community.

Parent–Children Program

Effort: This is a nonformal program carried out in marginal communities. It uses a participatory methodology in favour of the adults, children (especially children from 4 to 6), and community.

The Centro de Investigación y Desarrollo de la Educación (CIDE, Educational Research and Development Center) is running the program. A central team is responsible for overall supervision, planning, and operations. The program itself is implemented by general coordinators, who are people from the community with some previous experience with the program.

The PCP is based on discussions of specific topics in groups of 20 people from the community led by Base Coordinators who have been chosen by the members of the community from within their ranks. Slides, pamphlets, pictures and other materials illustrating problems in the community are used to stimulate an exchange of experiences to find solutions to specific problems. Base coordinators receive constant training in how to use the program by participating in special day-long training sessions and other activities conducted by the general coordinators.

From its inception, the program has had two dimensions: research and action. On the one hand, the program does research on different types of nonformal education for adults and children. On the other hand, the program is one of educational action, and in this regard may be termed a type of applied research. In this sense, the program is not imposed on a community, but rather is based on a prior analysis of the sociocultural features of the community where the program will operate.

As new situations arise, the program undergoes continual reexamination and revision while maintaining its original methodology. The primary aim of the program is to help people develop for their own benefit and that of their families.

The idea behind the PCP is community self-education. The methodology, techniques, and materials used are adapted to this end. The program is designed to enrich the child's personal (family) and extended (community) environment by making parents aware of their educational role in the child's life, of the problems that affect them, and of possible solutions to these problems.

The program tries to make participants see themselves as being able to act and as responsible for their own lives and problems. On the basis of their experience, program participants seek to find effective ways to solve their problems so that they themselves, their *children*, and the community benefit.

Program curriculum is directed toward encouraging parents to help their children in school. The curriculum is based on Piaget's ideas of child development, and, therefore, tries to design learning activities that are consistent with the child's level of development.

"This method supposes that a prior diagnosis has been done of the different levels of development of the child in order to determine the behavior and activities the child can successfully handle" (CIDE 1971). However, the authors of this program report also state that such a diagnosis is not absolutely essential because parents can supply much of the necessary information. The program approach is based on the family and *not on deficiencies* because it is not designed to make up for the deficiencies of low-income children, but rather to provide cultural-differential support for children so that they can get along in a pluralistic society.

Cost: The operating social costs for a year of PCP operations are US$36 944.30. These annual costs can be broken down as follows: cost per participant (total of 216), US$171.04; cost per participant with children from 4 to 6 years old (total of 74), US$499.25; cost per child (4–6 years old) whose parents also participate (total of 87), US$424.65; and cost per child with one parent participating (total of 561), US$65.85.

The social costs cover operations for 1979 in an urban area. However, if the Parent-Children Program were to operate at optimal capacity, that is, with 25 participants per centre and five centres under the supervision of each general coordinator, costs could be significantly cut to US$37 677.65, which means: cost per participant (750), US$50.24; cost per participant with children from 4 to 6 years old (255), US$147.76; cost per child (4–6 years old) whose parents participate (302), US$124.76; and cost per child whose parents participate (1948), US$19.34.

In terms of social costs, the PCP would appear to be an expensive preschool system alternative for children from 4 to 6 years old (US$424.65) when compared to other systems. However, in terms of the overall support and assistance given to children, the program is less expensive (US$65.85). It should be pointed out that almost 20% of the cost of the program is paid for by the community and the Church.

If the PCP were able to improve community motivation and selection, optimal coordinator-centre and centre-participant levels could be reached, thereby reducing costs for 4–6-year-old children to US$124.32, which is approximately the cost of the Ministry of Education program. These programs are not directly comparable because the PCP has very important effects at the personal and community level that should be given a corresponding weight before any type of realistic comparison may be done. Such an analysis would have to be in terms of cost-effectiveness and not just in terms of program costs.

Early Stimulation Program

Effort: The Early Stimulation Program is directed at children from 0 to 2 years old from low-income families. The program involves the periodic evaluation and stimulation of the psychomotor development of these children and treatment for those children whose development is deficient. The program has been an official part of the National Health Service's (NHS) child health care program since 1979.

A fundamental part of the program is the periodic evaluation of the child's psychomotor development performed by NHS nurses. The program sees mothers as fundamental agents of child stimulation and education. The NHS nurses and auxiliary staff train mothers in these skills by giving them verbal instructions taken from Stimulation Manuals that are especially designed to stimulate the development of children between the ages of 0 and 24 months.

The target population of the Early Stimulation Program includes: (a) Children between the ages of 0 and 2 years who go to NHS clinics; these clinics screen all these children and identify and treat high-risk cases and children showing signs of backwardness. (b) Mothers of children between the ages of 0 and 2 so that they will have the physical and mental development of their children checked regularly and provide psychological and educational stimulation for their children (especially mothers of children behind in their psychomotor development). (c) NHS staff; professional staff, nurses, and auxiliary staff who are specially trained to work on specific aspects of the program.

The program uses the following materials: (a) The PDES battery of tests (Psychomotor Development Evaluation Scale). (b) Diagnostic Record Card where the results of the PDES are noted. (c) Stimulation Manuals; these books give instructions for every month of a child's life from 0–24 months; they give overall suggestions about child rearing and outline activities a mother can perform during a specific month to stimulate her child's development.

Program action has been devised to take place in two stages: (a) Training NHS staff to diagnose and stimulate psychomotor development and to diagnose child development in the different NHS clinics (to become familiar with the scope of the problem).

Training has been conducted throughout the country by means of courses given to staff since January 1978. This has been done to instruct nurses in the most important aspects of early stimulation and to train them to diagnose and stimulate psychomotor development. Nurses are also given on-site training on how to give the PDES tests and how to provide stimulation. Specialized supervisors oversee this work. The diagnostic test will make it possible to estimate the number of children in the country with problems. (b) The diagnostic and stimulation stages at the national level are scheduled to begin in 1981.

Cost: The social costs for the training stage are US$213 982.50; costs for 1 year of program operations amount to US$3 197 451.30. To get some frame of reference for these costs, it is interesting to note that the 1979 budget for the Ministry of Health was US$510 356 000.

The cost of examining normal children from 0–2 years of age is US$15.23 per child; if children in this age group show some sign of risk the cost is US$22.69, and, if they present some form of backwardness, the cost is US$33.51. These costs cannot be analyzed individually, but rather must

be viewed in terms of the effects noted on children once the program has begun and is operating at the national level.

The Ministry of Health is providing the basic financing for the program, and is seeking assistance for specific parts of the program (for example, for training courses) from institutions such as UNICEF, PRUMIN, and so on.

At the request of the Ford Foundation, I drew up a detailed methodology for evaluating nonformal preschool programs based on experience (Latorre 1980a). This methodology will be analyzed and discussed by preschool program researchers and directors from the region to polish it and establish a suitable guide for evaluating programs. All nonformal preschool programs should be analyzed by the same method so that they can be compared with other programs.

Research was done on the nursery schools run by the National Board of Preschools of Chile (Magendzo et al. 1980). The study analyzed the psychomotor and nutritional development of children attending the nursery schools and compared them to children who remained at home.

Results showed that children who remained at home had more advanced psychomotor development than those who attended nursery school, although this last group made greater progress during the time between the two evaluations. It was clear that nursery schools were more beneficial to children suffering from some psychomotor lag or risk.

The particular study of the development of children who remained at home showed that it was possible to differentiate familiar environment within the context of poverty. The elements included in the description of the family environment referred primarily to general characteristics: mother's interest to raise and care for children, mother's emotional stability, emotional ties between mother and child, degree of family harmony, quality of human relations, mother's level of maturity in assuming her role, and family's concern with doing everything possible to further child's welfare and development.

Of the 34 families that were interviewed, 15 had a good family environment (44.11%), eight had fair environments (23.52%), and seven had deficient environments (20.58%); four families were found to have poor environments (11.76%).

It was found that the quality of the family environment is definitely linked to a child's psychomotor development. Of the children from good family environments, 73.3% showed normal psychomotor development on the first test and 100% showed normal development 3 months later. In fair family environments these percentages were 62.5% and 85.7% at the end of 3 months. However, in deficient and poor environments, only 57% and 50% showed normal psychomotor development during the first evaluation; these percentages remained unchanged after 3 months.

The relationship between family environment and progressive nutritional status[5] showed that only 50% of the children coming from poor family environments had normal nutritional development, whereas the percentages for children from good, fair, and deficient environments were 80, 75, and 71.4%, respectively.

This study examined children up to the age of 2; however, it is also necessary to study children over age 2. Overall findings indicate that most families can provide an environment that is suitable for the psychological and nutritional development of their children. The families classified in the deficient and poor groups have many of the negative characteristics often associated with poor populations. The percentages found for these groups (32.34%) are very similar to those found in other studies (Cortazar et al. 1976).

The foregoing results underscore the importance of being able to distinguish between the different types of poor families; this distinction will make it possible to provide preschool services first to those groups who need them most. These results also indicate that it is advisable for existing programs to revise their priorities by doing an in-depth study of the populations they work with.

Specific Measures — Financial Implications of Preschool Systems and of Complementary Measures at the Primary Level

Preschools

Our knowledge of formal and nonformal preschool programs enables us to begin to estimate the impact of mass programs on marginal sectors.

In this section, an estimate will be made of the annual cost of operating a combination of preschool programs that would provide effective services for poor groups in Chile. A combination of systems is used because, as was seen earlier, there is no single state of poverty. Thus, insofar as it is possible, the best system for each group or population should be used.

[5]Progressive nutritional health here refers to the entire series of measures of nutritional status done over time.

Table 1. Population in Chile by socioeconomic class.

Group age (years)	Not poor			Poor			Total		
	Urban	Rural	TOTAL	Urban	Rural	Total	Urban	Rural	Total
0–5	238642	113233	351875	943240	263235	1206475	1181882	376468	1558350
6–11	335414	159151	494565	929574	216389	1145963	1264988	375540	1640528
12–13	111805	53050	164855	284470	58963	343433	396275	112013	508288
14–19	252975	120035	373010	268625	131875	900500	1021600	251910	1273510
≥20	1026848	487230	1514078	3376208	784794	4161002	4403056	1272024	5675080
Total	1965683	932700	2898383	6302118	1455255	7757373	8267801	2387955	10655756

Source: Schiefelbein et al. (1978).

Table 1 shows the distribution of the Chilean population by age group divided into "poor" and "not poor" categories. There are 1 206 475 children in the poor category from 0–5 years old, 1 145 963 from 6–11 years old, and 343 433 from 12–13 years old.

On the basis of the study results mentioned previously, about 32.34% of the infant population between 0 and 2 years of age should receive the type of services provided in nursery schools (Magendzo et al. 1980). In the study in question, the control group was made up of children on the waiting list to enter these schools. However, it might be supposed that this percentage could be somewhat higher in the marginal population because many of the people not applying to these schools may be those who are least interested in child education. Therefore, 35% will be used as the estimate. It was also seen that the Early Stimulation Program was directed at children from 0 to 2 years of age from marginal sectors and run by the NHS. The NHS coverage in marginal areas is very good, which would make it possible to encourage the development of children who do not attend nursery school.

Although the follow-up study done on children who attended the Early Stimulation Pilot Program shows that by the age of 6, these children seem to have lost the progress they acquired while participating in the program, it can still be assumed that: (a) the large-scale program currently under way should correct the problems that have been detected and (b) children with the most serious problems would be incorporated into the preschool system that is best for them after they reach 2 years of age.

Because the Early Stimulation Program intends to cover 70% of the population and the nursery schools would cover 35% of this population, some overlapping might occur. However, this problem could be held at a minimum if the directors of the Early Stimulation Program exercised some supervision in this area. What is more, because the children attending the nursery schools come from deficient or poor family environments, it could prove beneficial for some of them to inadvertently attend both programs.

For children in the 2–6 age group, a combination of programs is proposed that involves working with all parents in a parents–children type of program and working with children from deficient and poor family environments in a system similar to the Plaza Program. This combination would help increase parents' understanding of their children and would enhance their personal growth and commitment to them. The direct work done by monitors from the community with the children would prepare the children more fully for entering primary school.

The cost for a child enrolled in the Plaza Program is US$272.25. The community covers 17% of these costs, and a large-scale program could also cut costs by some 15%; resulting in a real cost of US$192.07.

Ideally, both parents should participate in this program; however, the likelihood of this occurring is only 50%; in the other 50% of cases, only one parent would probably participate. Optimal participation can be expected because the program will operate on a broad scale. Furthermore, a ratio of 1 : 1 can be used in the calculations because a parent might have more than one preschool-age child. Because the community and the Church assume 20% of costs, cost estimates would then be US$40.19 per participant.

The operating costs for 1 year of this proposed combined program would be as follows.

Children from 0 to 2 years old: Thirty-five percent of the poorest children from this group would cost US$350;[a] the overall cost would be US$49 273 700. The National Board of Nursery Schools and the preprimary courses given by the Ministry of Education would be transformed and used exclusively as nursery schools.

[a]Even though nursery schools are more expensive, US$350 is used because a widespread program would cut costs proportionally.

At present the Nursery School Board programs cover 40 569 children[7] and the Ministry programs cover 91 501 children;[8] thus, the Nursery School Board was spending US$14 199 150 and the Ministry of Education was spending a total of US$11 630 692 on preschool services. Additional costs will add up to US$23 443 558.

Children from 2 to 5 years and 11 months of age: There are 804 470 poor children in this age group. The 1 : 1 ratio established earlier would make the cost of preschool services provided to parents of preschoolers US$32 331 649. Both the preschoolers themselves and their brothers and sisters would benefit from these services.

It will only be necessary to incorporate 35% of the 804 470 children, that is the children coming from the worst family environments or having no one to care for them, into Plaza type programs. The cost for these services will amount to US$54 080 094.

The additional cost of these preschool measures would be US$109 855 601.[9]

Complementary measures at the primary level: The selectivity of the Chilean education system has been shown repeatedly (Schiefelbein and Clavel 1976). The proposed investments in preschool education are really compensatory measures designed to give marginal sectors greater educational opportunities and in no way imply that primary education should be neglected.

The investments made in preschool education are important in themselves and in terms of the effects they have on primary education. Preschools not only help children stay in school longer but lead to progressively better performance while they are there (Jencks 1972). This in turn will help increase the child's future productivity (Selowsky 1976). Estimates indicate that Chileans must have at least 8 years of schooling to be able to earn a salary that will enable them to cover the basic needs (Trucco and Granados 1978).

There are several points that have been shown to be important in the development of students in the educational system and that continue to be fundamental despite any investments made in preprimary education (Schiefelbein 1975).[10] The following deserve to be mentioned:

(a) Incomplete schools are common (Schiefelbein et al. 1978). There are 475 schools that offer up to fourth grade, 474 offer up to fifth grade, 2815 offer up to sixth grade, 385 up to seventh grade, and 2296 up to eighth grade (PREALC 1977). The cost of gradually providing the missing grades in these schools (500 per year) is US$1 000 000 annually (this includes the cost of hiring teachers and building classrooms).

(b) Distribution of textbooks. The positive effect of the availability of textbooks on achievement has often been mentioned in studies on this topic (Farrell and Sepúlveda 1978; Schiefelbein and Farrell 1973). The annual cost of giving out Spanish and mathematics textbooks, and one notebook per student, is US$4 000 000 (average life of a textbook is 3 years).

(c) Food for students. Based on information provided by the Ministry of the Interior of Chile (Ministry of the Interior 1976), in 1976 the number of students in primary schools was distributed in the following way: 50.8% came from extremely poor families, families in which one parent works on the PEM (Minimal Employment Program) and low-income families, and 49.2% came from families having the basic resources and without problems. These figures indicate how important food programs for students can be in terms of keeping them in primary school.

In 1972, 67.9% of the students enrolled in primary school received breakfast and 31.6% received lunches and dinners. These figures declined to 47.2% and 13.8%, respectively, in 1978 (Latorre 1980b). The total cost of providing 50.8% of primary students with breakfast and at least 20% with lunches and dinners would be: breakfast (1 135 817 x US$38.18)[11] US$43 365 493 and lunches suppers (447 172 x US$91.97)[11] US$41 126 427. The additional cost would be US$3 100 865 (81 217 x US$38.18) for breakfasts, and US$12 836 437 (139 572 x US$91.97) for lunches suppers.

(d) There are several other questions that would involve the redistribution of current resources rather than additional costs.

Teachers working with children from marginal areas must receive psychological in-service training (undertaken by PEIP) to enable them to be effective in their work. Past experience has shown that repeating the first year of primary school is not directly related to children's intellectual abilities. Other factors such as personal characteristics (apathy vs. active participation, obedience vs. rebelliousness, etc), determine

[7] Enrollment 1979.

[8] Enrollment 1980.

[9] The costs of the Early Education Program are not included here since the Ministry of Health pays for them and this outlay is currently being made.

[10] There is still a real repetition rate in the First Grade of over 40%.

[11] Annual cost based on a 176-day year.

"who" repeats (the qualitative dimension). Furthermore, the fact that there have always been students in every grade who repeat can affect the "number" of children not passed (quantitative dimension).

Certain changes could be made in the curriculum as a means of promoting the development of all children (Castillo 1975; Castillo 1978). It would be highly advisable to adapt the school calendar to the region, especially in those countries that have different climates from region to region. Economic factors such as harvest time should be taken into consideration so that school attendance remains constant.

The costs mentioned here are in no way conclusive and final, but rather are general estimates of the sums of money involved. The total cost of the measures proposed here comes to US$130 792 903. The public expenditure in education is US$527 800 000 (Latorre 1978), so the additional resources proposed would require a 24.8% increase in the education budget.

Discussion

This study has reviewed findings on poverty, childhood, and preschool education in Chile. It has stressed the work done by the PIIE with regard to the National Board of Nursery Schools and nonformal preschool programs. The information gathered enabled us to estimate what the additional costs to the education budget would be for instituting a combined system of preschool services for marginal children[12] and for implementing measures aimed at keeping children in primary school. A thorough examination of each type of preschool program, its effectiveness, and costs has made it possible to propose a combination of these programs.

The additional resources needed for these programs in Chile represent 24.8% of the education public expenditure and 3% of total public spending. Can budget cuts be made in other areas to increase the education budget by 24.8%?

The sum of money involved lends itself to the following considerations:

(a) It is important to remember that all the studies on preschool education point out that it is a profitable undertaking (BID ODEPLAN 1977; Selowsky 1976). The short-term investment in this education is considerable but should be viewed in terms of the social justice it will bring about. Over the long term, the system will become self-sufficient because these investments will create parents who can cover their children's basic needs. In the medium term, these investments will replace current programs that provide compensation to the heads of low-income households.

(b) It is vitally important to determine the effectiveness and costs of nonformal preschool programs in Latin America in general. This information will help in devising effective preschool program plans for marginal sectors. This is the only way to turn government declarations of intention into action. We need numbers to determine the feasibility of the plans.

(c) Efforts must be intensified to find effective systems that are suited to the needs of the different groups that make up the marginal sectors in Latin America and whose costs make it possible to implement them on a large scale.

(d) Education alone cannot bring about complete social change; although there has been greater cultural mobility than income mobility, education has stayed within the limits of the existing social structure and has been highly selective.

(e) There must be a tremendous political will behind a change of this sort because there is no denying the present situation has made it possible for certain sectors to accumulate wealth more rapidly. Measures such as the ones proposed here would, at the very least, endanger the pace of that accumulation. What is needed is a government that is committed to advancing the interests of the disadvantaged, a government that has enough power to translate its commitments into action.

(f) Unfortunately, the tremendous development of the modern sector in our economies, accompanied by labour-saving technologies and the invasion of transnational corporations, with all the well-known consequences they bring (high unemployment, increased number of poor people) cast doubt on the feasibility of undertaking some concrete action to overcome poverty.

[12] Obviously, the final selection of the combined system would have to be made carefully, as there are groups in Chile, such as the Mapuches, Aymaraes, and Pascuenenses, for which special systems would have to be designed.

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Summary of Some Years of Preschool Research

Hernando Gómez Duque[1]

Introduction

Some of the papers that I have presented at seminars whose central theme is similar to the topic discussed here have been characterized by a thorough quantitative content, reflecting long periods of dedication to what Thomas Kuhn has called "normal scientific activity." These periods offer science, and those of us dedicated to it, some very clearly defined limits of study. Thus, the methodological and normative variations within case studies are minimal and cause no disagreement among the scientists who work according to similar orientations.

My topic here has a longitudinal and empirical basis formed from my close and uneasy observation of various childhood intervention experiences. Many of you may reject this empirical basis as too anecdotal, lacking the reiteration and context of a methodology that arrives at the solid conclusions of normal research projects. To others, my thesis may appear incoherent.

As Kuhn has said, there are periods in the history of science in which "factual" data appear to be out of step with what one would expect from the postulates of a theory. According to Kuhn, "The discovery of truth begins with the perception of an anomaly; that is, with the recognition that in certain ways nature has violated our expectations, induced by the limits which govern normal science" (Kuhn 1975).

Many years of work in this field have led me to sense the presence of numerous anomalies. I say "sense" because I am far from being able to document them adequately for the scientific public. Nevertheless, like Popper, I feel I am qualified to conjecture, and you to refute, about the data being presented at this meeting.

The information presented here should be examined on two levels. First, it is necessary to formulate a theoretical model that will redefine the goals of education. Without this, the operational model will never be articulated. The second level in the hierarchical structure is occupied specifically by the central topic of this meeting: the child from birth to age 12. For practical reasons, however, we must first analyze what has been done up to the present on this second level.

A Model for Discussion

In regard to the form of analysis, I will adopt a quite conventional model: the anticipated response to the system may be broken down into variance attributable to the preschool period (here I include the popular definition of the term "preschool"), variance attributable to the environment (included here are the family, play companions, and the community through the media it utilizes), and variance attributable to the school period. The model should clearly include double interactions and the source of the variance, which is, I feel, the most important in structuring a coherent process, that is, the triple interaction of the three systems.

Obviously, my proposal is nothing innovative, as the organizers of this seminar have already stated the same model in their introduction to the objectives and guidelines, and I will use their positions as a basis for my discussion.

The Component of the School

"Several attempts have been made to change the school system at its various levels and in different areas: Teacher training programs are developed, new textbooks introduced, new educational materials tried out, school facilities improved" (Objectives and guidelines).

We should note here that if the objective is to

[1]Director, Planning Office, Universidad del Norte, Barranquilla, Colombia. The experiences narrated here occurred while the author was a researcher for the Human Ecology Research Foundation.

improve student performance within the school, the school as a whole has been taken as a source of variance contributing to the performance variable. The components cited (i.e., teacher training, new textbooks, etc.) can be tested to verify positive impact.

In educational terminology, such areas of study are known as "school factors that affect performance." In spite of the catastrophe generated by James Coleman's report on equal educational opportunities, there are certain empirical proofs that support intervention at the primary school level. However, these studies have not received the support they deserve, and to date we have not had a well structured theory as to what the school can contribute.

In Colombia, and perhaps in other developing countries, research at the primary school level is certainly poor. Even if the conclusions of the Coleman report could be taken as conclusive, there are a variety of factors in these countries that do not exist in more-developed nations, and that surely, on their modification, would make a notable contribution to student performance.

At this point, I wish to pose a fundamental question: if there is no structured theory in regard to how factors inherent in the school affect desertion rates and low performance, why concern ourselves with earlier periods?

Even at the risk of being labeled a conservative, I believe there are sufficient elements in tradition to think that the family is responsible for this first stage. If, because of certain historical conditions, there are marginal groups in which the family can not fulfill this function adequately, we must ask ourselves what the obstacles are for these families in contributing to the education of their children, because groups from different socioeconomic levels appear to be able to do it well.

The conclusion is that the family is potentially capable of carrying out this task. At least this is one of its principal social duties. Some families can not for reasons that have not yet been studied systematically. However, some of these circumstances are in the heads of many, although in the hearts of few.

If we are not completely convinced that our system of primary school education is not susceptible to change, then why have we embarked on research to design a new structure of formal education to replace the old? The answer is clear in the following message from Coleman: "For those children whose families and neighboring communities are educationally deprived, it is important to substitute the home environment with an educational atmosphere, beginning school attendance at an earlier age and making the school day longer." (Coleman 1966)

I believe it is valuable to reflect on this statement. In the first place, the proposal concerns children of deprived families, from which we may conclude that families that are not educationally deprived can fulfill their function as child educators. In the second place, the proposal of substituting the family environment with an educational environment has two implications: the first is that taken by Coleman when he suggested that the substitution be that of a new schooling system. The second is the formulation of interventions that replace by means of reinforcement. But the reinforcement of this educational environment of the family causes the scientist to cross boundaries that have been forbidden by the establishment. In more modern terms, the scientist is almost forced to move within those limits set by the governing body.

To conclude this rather incomplete section, I refer to Elkind in the following conjecture: "In closing the discussion, I would like to emphasize another side to this issue of preschool instruction. This is the consideration that the emphasis on preschool education has obscured the fact that it is the elementary school years which are crucial to later academic achievement" (Elkind 1978).

The Preschool Component

"A different approach has been adopted by administrators and educators who look for the causes and the solutions of school failure in the experiences which take place in the period prior to school entrance" (Objectives and guidelines).

In 1979, the SER research institute, whose head offices are in Bogota, contracted me to report on what had been done in Colombia in the area of childhood instruction during the 1970s. I must admit that the list of projects in my summary was subjectively selective and, for this reason, my inferences may not be entirely representative.

When I received this assignment, a marvelous anecdote came to my mind of something that had happened to me when I was a student at the University of Chicago. After having spent quite some time analyzing the data for a longitudinal study, about which I will comment briefly further on, I was pleased to note that a group of deprived children who had received a psychoeducational stimulus treatment were ahead of their control group companions by a 1.5 standard deviation in intelligence quotient (IQ). I went to the office of the program's director to report on this discovery. After telling my story and expecting an effusive reaction from the educator, I observed Mr

Foster's passive response and heard his only remark: "IQ for what?" I am still searching for an answer to Mr Foster's question.

I believe that my experience in this instance is not too different from what can be seen reflected in the majority of the projects included in my summary.

I can affirm with little doubt that none of these projects were oriented by a research paradigm that could have much importance above and beyond the limits of an eminently psychological argumentation. All of the projects mentioned the deprived segments of the population and their problems, but little questioning was done as to the contributions of remedial programs for this social problem.

My conjecture in this respect is that the methods of research are propagated through financial backing, but their message arrives incomplete to the source executing those projects. I am inclined to think that the decision to embark on a research venture has a high content of self-financing from the institutes that concentrate on these activities. Scientists, thus, are channeled into a normal scientific activity, whose limitations are completely ignored, as they are pushed onward from an outside source.

Returning to the model of components of variance, I can affirm that the intention of all the projects carried out in Colombia in the first half of the decade focused on the degree of variance that could be effected by different combinations of treatments, using different methods of psychological evaluation as measures. But allow me to describe in detail my own personal experience at the Human Ecology Research Foundation.

A Longitudinal Study

Around 1970, the "boom" of genetics versus the environment reached its peak with the article published by Arthur Jensen in the "Harvard Educational Review." The empirical evidence, to my mind, was in favour of Jensen, but not because of the theories he defended and still attempts to maintain.

Nevertheless, the method of research imposed the design of studies that permitted the mobilization of deprived children according to a distribution by intelligence. As a result, the supporting theory should be based on a psychological concept that permits the manipulation of "cognoscitive structures" according to the convenience of the investigator.

An excellent article by Eleanor Duckworth quotes a statement by Bruner to the Geneva group at the Woods Hole Conference: "You have done nothing but document the child's unaided development; you don't intervene. Surely each of the notions you have studied is composed of other simpler notions. Surely it is sufficient to decompose each of the complex notions into its simpler parts, to teach the simpler parts, and to aid the construction of the whole notion in this way" (Duckworth 1979).

As noted by Duckworth, the position taken by Bruner is an effort to impose uncritically on the social sciences methodological structures developed in the context of the natural sciences.

Even though the study I am describing incorporated "a posteriori" elements from a progressive theory of education, adapted from the David Weikart group, the basic supporting scheme was consistent with the main thought in the Bruner quotation.

The intent of the program, in my view, was to mobilize the variance in such a way that the factors inherent in primary school and the environment surrounding the child would become only marginally important.

From the point of view of methodology, the Foundation's program was surrounded by elements of a tradition that is increasingly questioned. The best definition I know of this tradition is that given by Habermas: "Only the controlled observation of a determined physical behavior organized in an isolated field under circumstances which can be reproduced by perfectly interchangeable subjects seems to permit valid perceptual judgements in an intersubjective manner" (Habermas 1978). I must point out that Habermas does not follow this research tradition.

The results of this experience have been amply published in magazines of world renown, including "Science." I, therefore, think it unnecessary to repeat them here. I would, however, like to mention those data that secured my participation in this symposium.

Table 1 shows the experimental design of the project with the different contrasting groups. In this table Groups 1 to 4 are made up of experimental subjects that received the same treatment but for durations varying from 1 to 4 years.

Group "HS" belongs to a different population in terms of its social and economic background; the results of the psychological tests make it possible to place their parents clearly on a scale of income distribution.

Group "NE" is made up of children who fell outside the limits, at the beginning of the program, for inclusion or exclusion in regard to the rest of the population considered for the experi-

Table 1. Design for the longitudinal study of the Human Ecology Foundation at the preschool level.

Groups	1971	1972	1973	1974
G1	x	x	x	x
G2		x	x	x
G3			x	x
G4				x
HS	High socioeconomic level			
NE	Low socioeconomic level no intervention			
CE	Low socioeconomic level no intervention; ex post facto selection			

ment (below 90% of normal weight for their age and below 87% of the normal height). Finally, Group "CE" includes a number of children who are currently classmates of the experimental subjects.

Analysis of the Information

The data appearing in Table 2 were analyzed by means of a simple analysis of variance that, I believe, gives enough information as to the process. I must note, however, that all the calculations were made with a simple programmable calculator so that there may be some degree of error. On contrasting the averages on a simple inspection, I am, however, inclined to think that the analyses are accurate.

When the analysis of each of the subtests is done of all of the groups, there are significant differences in all except two that are crucial for our discussion: vocabulary and arithmetic.

I state that they are crucial because, in an interview some members of the research team had with the children, one of the many questions asked was: of the many things you do in school, which do you like best? As can be seen in Table 3, the answers most frequently given were, in order, reading and writing, playing, and arithmetic.

The answers of these children obviously reflect the type of curriculum in use at the school. Although it would not be completely orthodox to judge reading and writing proficiency from a vocabulary test, I think there must be some clear correlation between the two criteria. What has the school system done in this case? It has homogenized groups of children who earlier occupied

Table 2. Ratings in the WIS-R tests at 10 years of age.

Groups	Blocks	Information	Labyrinths	Vocabulary	Ordering	Similarities	Digits	Arithmetic	Drawings
G1									
Prom	18.93	10.78	22.2	17.07	17.87	11.25	8.73	10.44	16.6
SD	(11.42)	(2.96)	(4.6)	(4.68)	(8.72)	(3.83)	(2.11)	(2.24)	(3.08)
N	(43)	(40)	(45)	(43)	(45)	(44)	(45)	(45)	(45)
G2									
Prom	17.35	9.38	20.65	17.85	17.98	10.09	8.69	10.26	16.02
SD	(11.29)	(2.50)	(5.92)	(5.02)	(8.92)	(3.68)	(1.91)	(1.92)	(4.24)
N	(43)	(42)	(43)	(40)	(43)	(43)	(43)	(43)	(42)
G3									
Prom	14.64	10.39	19.59	16.97	14.13	10.23	8.08	10.05	15.62
SD	(9.29)	(2.35)	(5.19)	(4.97)	(8.26)	(2.86)	(2.21)	(1.92)	(3.18)
N	(39)	(38)	(39)	(38)	(39)	(39)	(39)	(38)	(37)
G4									
Prom	11.475	9.58	18.36	16.32	12.73	9.33	8.40	9.98	14.13
SD	(7.35)	(2.22)	(5.69)	(5.65)	(7.03)	(3.64)	(2.44)	(1.98)	(2.88)
N	(40)	(40)	(39)	(37)	(40)	(40)	(40)	(40)	(40)
HS									
Prom	29.52	15.63	23.06	32.21	30.07	15.73	11.44	12.138	19.42
SD	(11.81)	(3.67)	(3.91)	(9.38)	(9.68)	(4.75)	(3.22)	(1.98)	(2.34)
N	(48)	(47)	(48)	(48)	(48)	(48)	(47)	(48)	(48)
NE									
Prom	10.67	9.44	18.60	15.92	14.43	8.40	7.50	(9.61)	14.73
SD	(6.73)	(2.18)	(6.12)	(4.77)	(8.32)	(3.22)	(2.25)	(2.47)	(4.11)
N	(52)	(52)	(52)	(51)	(51)	(52)	(52)	(51)	(52)
CE									
Prom	14.38	10.13	22.10	16.38	18.31	8.97	8.69	10.30	15.66
SD	(9.18)	(2.71)	(4.82)	(5.18)	(8.83)	(3.30)	(1.72)	(2.12)	(3.15)
N	(39)	(39)	(39)	(39)	(39)	(39)	(39)	(39)	(39)

Table 3. Frequency of responses to the question: of all the things in school that you do, what do you like most?

	%
Writing and reading	26
Drawing	21
Arithmetic	14
Others	5
Assignments	22
Play	11
Others	1

differential positions. Given that the activities in Colombian public schools are centred on these two basic skills for the first years, we must be careful in expecting a very positive impact from preschool experiences, at least as long as we sustain the philosophy of the transmission of values that currently orients our system.

With respect to the data on school performance in terms of the different levels of competence reached by the children, I have analyzed them and not found significant differences. One thing does stand out: the children who participated in the treatment are 2 years behind in the system in relation to their schoolmates of a high social class.

Let us turn now to the significant differences I found in the tests of block designs, information, labyrinths, ordering of drawings, similarities and analogies, digits, and incomplete drawings.

When we compare eight points in favour and two against, the quantitative result favours the preschool child within certain limits.

Omitting in the analysis Group G4, which only received 1 year of treatment, and Group NE, which received no treatment, these differences completely disappear.

Some important facts must be noted: (a) 2, 3, or 4 years of treatment appear to justify an intervention (1 year, beginning at age 6, is too late) and (b) note the equality between the groups G1 (4 years of treatment) and CE, classmates who have not attended preschool. Even when for this latter group children with ages similar to those of the children who participated in the intervention were selected, there is still doubt as to whether this would be an equivalent control group. This lack of equivalence could infer a greater degree of socioeconomic well being for the parents of these children.

In a longitudinal study I undertook with Dr Miguel Urrutia of FEDESARROLLO on the evaluation of earnings during the 1970s of families whose children were attending the program, we found the following: (a) the actual earnings of the head of the family showed no significant change, (b) the total earnings of the family changed positively in real terms, (c) the variation in this family earning level was owing to a greater participation by the wife in the work force, and (d) the housing conditions changed notably.

These characteristics place the neighbourhood on a different socioeconomic level from that observed when the children began the program. For this reason, it is not rash to state that the CE group belonged to a higher level, and here we would begin to define the first parameters for a new system of confronting these situations.

Moving Into the Third World

"Different types of early education programs, both formal and informal, are developed, plans are made to increase the number of preschools, the family and the community are involved in early stimulation activities" (Objectives and guidelines).

The list included here by the organizers is more or less representative of the hecatomb that resulted from the interventional modes of the period beginning in 1975. This variation is not subject to criticism as it is a fundamental principle in the epistemology of biosocial evolution maintained by Campbell and Popper and to which, temporarily, I adhere. On the contrary, I am pleased about it as it is a symptom that the paradigm of this type of normal science I have been criticizing is beginning to lose ground.

The problems can be seen more as interactions among the factors that affect the child in his or her development, and we recognize the need to see the problem as a totality and not through isolated components. On this point it is valuable to cite Theodore Adorno when, in a controversy with Popper on the logic of the social sciences, he stated: "The social whole has no life of its own beyond the components which it brings together or makes known. It is produced and reproduced by virtue of its separate moments . . . . So rarely, however, are we able to separate said totality from life itself, the cooperation and the antagonism of its elements, are we able to understand only one of these elements even its simple functioning independently of the understanding of the whole, which has its own essence in the movements of the individual entity" (Adorno 1978).

Another fundamental symptom that the problem is not one of articulating a paradigm is the change noted in the methodology and norms

used in research. Almost all the programs started in Colombia in the 1970s had a strong experimental component with treatment groups, control groups, and subjects assigned randomly.

This type of inferential mechanism lost ground around the year 1975, when the first quasiexperimental studies appeared. Later we hear of action research, participatory research, the promotion of base groups, and the norms for evaluating experiences present a good number of uncertain elements. The number of quantitative factors or elements hypothesized as a result of the interventions multiply, until the possibility of identifying some feature common to the groups taking part in the research is lost. A value system relative to each of the subgroups in the culture with which the researcher has worked is defended. Science thus begins to be diffuse, as does the problem that one hopes to remedy through experimentation or experimental action.

My experiences with the projects that I have named those of the Third World have been true learning experiences in my research career. I wish to give special emphasis to the project developed by the Human Ecology Foundation with the financial assistance of the Van Leer Foundation. It is not necessary to go into detail here as to all that has been done in 3 years. I will mention only those aspects that, in my view, are most relevant for this discussion.

Part of our work was to achieve the active participation of the family in preschool programs carried out by the Foundation. With this proposal, we decided to invite the mothers to collaborate with the teachers in designing educational materials. These workshops were to fulfill two goals: (a) to create interaction between the mother and the teacher and (b) to assure that the new materials would be used in the children's homes and, thus, give a certain continuity of educational environments.

The first meetings were successful, but soon afterward desertion from the weekly workshops was noted. We made a decision to design workshops based on higher priority elements in the eyes of the participating mothers. Attendance improved and the interaction grew between the teachers and the family. We attempted to motivate dialogue so that these workshops would be a vehicle for true expressions of social problems that were beginning to emerge.

The problem began to get too big for us, I must admit. There was no chance of remaining neutral in our attempt to overcome these obstacles that oppressed the deprived sectors of the population.

To penetrate more deeply into the daily problems of the community, we decided to modify our initial strategy. This had been based on a few demonstration training units that, as their name indicates, were aimed primarily at designing a curriculum consistent with certain "modern educational theories" and explaining it to the teachers.

The second strategy was to have taken shape in what we called Centres for Integrated Community Development. The philosophy was similar to that of Father Jerry Pantin in Trinidad-Tobago. However, we were unable to achieve our goals because we did not obtain the necessary financial backing to continue.

In Search of a New Paradigm

Ten years as a researcher into the problems affecting children and the resulting historical reflection have been basic to arriving at a stopping point. My initial steps were as a quantitative methodologist and, paraphrasing Donald Campbell, as a servant of an experimental society. I wish now to relive these experiences to formulate strategies that, in my judgment, are more related to the social realities of the Latin American. I believe it is time to *deepfreeze* all those elements that have been useful in analyzing empirical relationships by transforming numerical data. I do not deny their utility at certain points in history in which there is a clear model to be articulated. However, I feel that the horizon at the moment is rather gloomy.

This is not pessimism, as I am sure that there is a long road to travel yet, but this road must be taken in a different manner. Plato says, in Phaedro, "To come to a prudent resolution in anything, my son, one must begin by getting to the bottom of the question; otherwise we will unavoidably fail."

In closing, I wish to leave an element for thought familiar to many of you. This quote from Paulo Freire sums up all I have wished to convey: "Those who use cultural action as a strategy for maintaining their domination over the people have no choice but to indoctrinate the people in a mythified version of reality. In doing so, the Right subordinates science and technology to its own ideology, using them to disseminate information and prescriptions in its effort to adjust the people to the reality which the "communications" media define as proper. By contrast, for those who undertake cultural action for freedom, science is the indispensable instrument for denouncing the myths created by the Right, and philosophy is the matrix of the proclamation of a new reality. Science and philosophy together

provide the principles of action for conscientization" (Freire 1970).

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Summary and Conclusions

The studies in this part indicate that the adoption of developed-country preschool education models is not recommended for confronting preschool education in Third World countries. It is, therefore, necessary to develop strategies related to the socioeconomic problems, the cultural characteristics, and, principally, the basic needs affecting children in these countries.

Myers' work shows the progressive change in focus of childhood programs in Latin America. In relation to their objectives, the tendency is to substitute the concept of welfare for that of development, the custodial concept for a concept of integral child development, and the concept of help for that of prevention.

With regard to the components of preschool intervention, the conclusion is that this type of program should include health, nutrition, and other components and that, in addition, the child should not be the sole centre of preoccupation of the program but that it should be directed also at parents, family, and the community. Another relevant aspect of the discussion in these studies is the need to create alternatives according to need levels and availability of resources. A common denominator of all of these alternatives is the search for low-cost systems with high response levels.

It is also emphasized that the "preschool institution" concept must be perceived as a "childhood development" concept that is basic to creating an understanding that what is important during preschool years is the child's development, not his or her preparation for entrance to school. The latter is a natural result of adequate childhood development.

Efforts must be redoubled to establish childhood development systems that are effective for the groups that make up the vast marginal sectors of the Third World. A crucial element for this is that costs must permit widespread application. However, the basic factor to make this feasible is political determination.

Part III

Discussion and General Recommendations

Program Objectives, Research Prospects, and Policy Formulation

This is a summary of the main points coming out of the meetings held by the working groups at the seminar; their discussions centred on an analysis of the papers presented at the seminar and on the participants' own experience in this field. This summary has been divided into three parts: (a) opinions and discussion on objectives, conceptual framework, and methodological aspects of research and preschool and primary education programs; (b) areas of research needed in this field; and (c) the main implications of programs and research in terms of formulating policies affecting children.

Objectives, Conceptual Framework, and Methodological Considerations

Objectives

The analysis of this subject focused on two main points: first, the overall approaches used to define and formulate the stated objectives and, second, the specific objectives and respective indicators these approaches have produced.

Overall approaches: A major feature of studies done in this field has been the tendency to view schools, the community, the family, and children as separate, isolated components; insufficient emphasis has been placed on the interactions that occur between the components. Usually the approach adopted has taken on the bias of the specific topic under study.

The initial aim of many programs was to provide *education* covering the different needs of the children. However, several years' experience with this approach and the purely remedial nature of the work being done have made it clear that preschool education must be combined with programs specifically designed to *improve the economic situation of families* either through job training or other programs intended to provide sources of income.

No one would deny the need for preschools to shift their focus from compensatory to preventive types of action; however, the fact remains that most programs fail to make this transition. The reason seems to lie within the limitations of the programs themselves (economic and human resources, unfamiliarity with the situation, etc.), the innate problems associated with preventive action, and the pressing need for solutions to the problems facing the poorest sectors of society.

Objective setting in the action and research programs conducted in most of the participating countries is usually based on criteria that are unrelated to the situation of the target population. The inattention given to the specific socio-cultural characteristics of the target population results from several factors: the prevailing cultural outlook that dominates scientific circles, the interest of organizations providing financing, and the education some researchers have received.

Thus, there are programs that, while attempting to find solutions to health, nutrition, and housing problems, have not taken into account the cultural role played by the agency or organization they wish to change. However, problems can be solved and cultural components of the population can be kept intact by integrating the target population into the design and implementation stages of the program.

Specific objectives: As to the specific objectives pursued by programs and research projects, one may identify both the basic points of reference used and the areas that have yet to be explored.

Figure 1 shows how programs have favoured objectives directed toward children over those involving the family and the community. In terms of program content, physical questions and academic performance have taken precedence over mental health and social development considerations.

A look at the relationships within the specific squares shows the predominance of several indicators. The physical development of the child has been focused on nutritional health, child morbid-

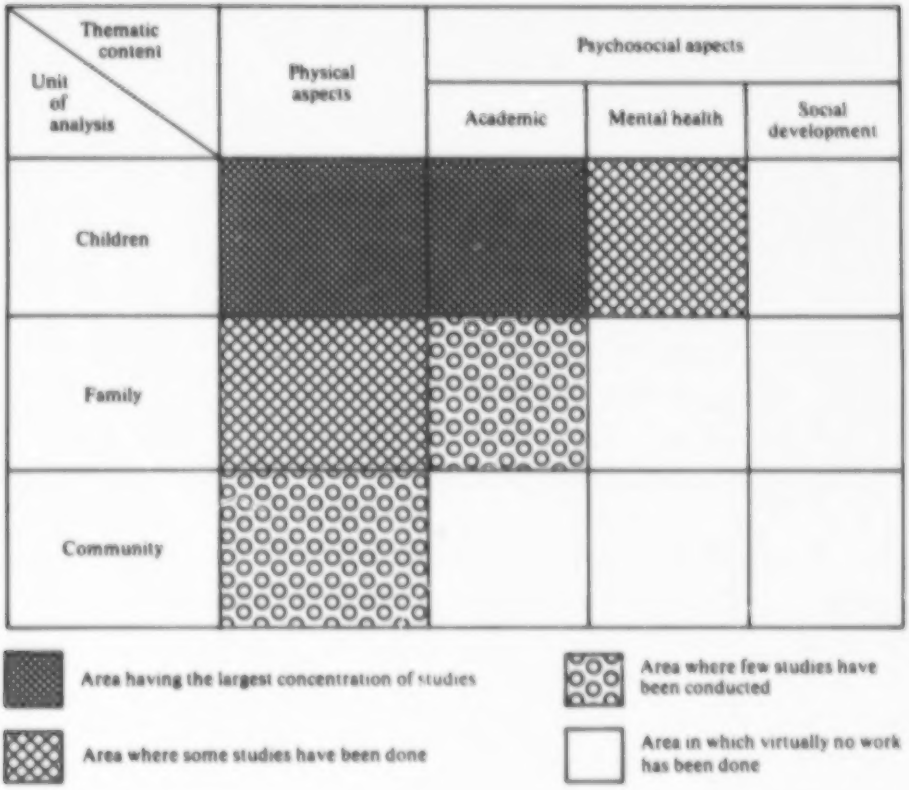

Fig. 1 Classification of research according to several units of analysis and the thematic content of the study

ity, and reducing infant mortality. Psychosocial development, and especially the psychosocial development involved in academic achievement, has leaned toward cognitive skills, academic performance, repeaters, and intellectual development. Thus, there is still a need to work on the child's mental health and social development and, more specifically, on creativity, self-esteem, social skills, cooperation, the quality of interrelations with peers, adults and family, aspirations, value systems, self-criticism, criticism, introspection, and integration.

As regards the family, the question of physical health has focused on improving diet, environmental health, waste and garbage disposal, water purification, the elimination of infectious diseases, and improved housing. Generally speaking, it was found that preschool and primary programs do not stress this type of objective and, when they do, the impact of their action is very limited.

The psychosocial goals centring on the entire network of family relationships has been given little consideration largely as a result of the complex nature of these relations. However, the working groups recognized the need to broach this subject. It is particularly important to explore the parent child relationship, the relationship of the couple, the support education provides for the family, family aspirations and values, and teaching parents how to read and write.

Work done on the community has focused on human and environmental health and on ecological and conservation questions; very little other work has been done in other areas.

Conceptual Framework

There were several constant factors in the overall directions of the conceptual framework used in studies and programs in this area; some of these factors were found for both the preschool and primary levels, whereas others were specific to a particular level.

Elements shared by both levels of education: The Deficiency Model is still used as a basic framework for action programs, which assume that low-income families are lacking in certain basic attributes (culture, verbal skills, environmental stimulation, etc.) and, therefore, direct their efforts toward compensating for these deficiencies by trying to bring the level of these families up to that of families having such attributes.

In addition, it is generally assumed that certain problems are specific to low-income sectors without having investigated to see if they also occur in upper- and middle-income groups. Examples of this type of problem include emotional problems in the family, interaction between parents and children, and so on.

The question of the prevailing theoretical framework can be broken down into two main schools. The first school has adopted the values, behavioural norms and fundamental outlook of the upper and middle classes as its basic criteria for normality; as a result, low-income groups are sometimes compared with standards and norms that have nothing to do with their own forms of social and cultural adaptation. This has introduced a cultural bias into the comparison of culturally and socioeconomically different groups and has hampered the observation of the specific characteristics of each group.

The second school has a tendency to adopt educational and conceptual models from industrialized countries (European and or American ones) that are often not suited for use in Latin America because they do not take into account the socioeconomic, sociocultural, and historical aspects of poor countries. Thus, for example, there is a tendency to consider certain child-raising practices as negative without first analyzing their effectiveness and meaning in the community in question; there are also studies that view the family as a nuclear structure when, in truth, it tends to be extended in this region. Several programs were presented that incorporated some of these regional features and aspects; for instance, the program that uses older brothers and sisters as agents of education.

Third World education programs must be placed in the broader context of social development programs. The approaches of preschool programs that include both the educational and assistance components rarely reflect this need; often these two components have been seen as possible program alternatives rather than closely linked factors. It is even possible that the assistance factor may be a component of the educational one.

Therefore, when assistance action is necessary, educational programs can be created that integrate this goal and at the same time are preventive in nature. This also means a number of areas (medicine, education, sociology, and so on) must be covered in both the study (diagnosis) and design of the programs and actions decided on.

The subject of program continuity was repeatedly mentioned; program effectiveness is stunted when continuity over time is lost and when there is only limited coherence in the services provided by different institutional systems.

Preschool programs: Most government-sponsored or run programs use games as a primary educational tool without full understanding the consequences of this approach for children who come from homes where games are not frequently played.

There are some plain differences between parents' expectations of preschool education and what preschool education systems actually set out to do. Parents tend to prefer academic training whereas the preschools are concerned about the integral development of the child and focus more on the child's needs than on those of the educational system.

In the preschool – primary school relationship, viewed in terms of the benefits the former provides the latter, there was a marked tendency to fault preschool for failures at the primary level; as a result, efforts were made to alter the preschool system. It would be utopian to expect significant changes in school-age children without first instituting modifications in the schools themselves. Although the educational system is somewhat resistant to change, there is a pressing need for it to adapt to community and children's needs. However, preschools have shown themselves to be more open to change in terms of pedagogical approaches and social development. More often than primary schools, preschools have tended to further the integral development of children from low-income groups.

Often there was no continuity of approach between the preschool level and the primary one. However, it was deemed necessary to proceed with caution in attempting to make preschools and primary schools more congruent because

there is more of a danger for preschools to be absorbed by primary education than for the opposite to occur.

Methodological Aspects of Research

The discussion on this subject focused on three main points: research approaches, areas of research, and the dissemination of research findings.

Approaches to research: Over the last 10 years, experimental and quasiexperimental approaches to research have predominated in the field of early education. The working groups were of the opinion that this type of research produces important information on the relationship between education and social development and, consequently, should continue. Nevertheless, the groups also discussed the need to develop alternative approaches to research, such as research-action studies and participatory research. The group saw that there is a need to involve parents, teachers, and children in the diagnosis, implementation, and evaluation phases of programs.

Areas of research: Research has primarily focused on the evaluation of achievements and, to a lesser extent, on the analysis of educational processes. There is a need to delve further into the schools themselves and examine what goes on in the classroom and in the other areas in which there is teacher student interaction. It is also necessary to study nonformal education programs in terms of the effects they produce.

The working groups spoke of the need to broaden the type of results evaluated. There is a marked emphasis on psychological questions, and particularly on the evaluation of IQs. This approach not only limits evaluation, but can also lead to mistakenly labeling a program as a "failure." Indicators must be developed to assess the effectiveness of programs in terms of the full range of achievements they produce, such as the ability to confront daily life, self-esteem, the degree of community organization, self-confidence, solidarity, and so on. The reason that so few evaluations of this type are done lies partly in the difficulty in translating them into traditional terms of measurement; however, new methods must be found to accomplish this.

It is also necessary to distinguish between short- and long-term achievements. Most studies project findings over the short, or at best, the medium term. Little work has been done on the long-term effects of preschool education in the Third World. Some of the medium-term indicators used in the studies presented at the seminar included: reduction of repeating and dropout rates and levels of learning in academic school subjects. One of the main long-term effects deals with delinquent behaviour. The working groups recognized the importance of evaluating occupational status, although exact ways to do this were not discussed.

The need to evaluate both individual *and* group achievements was mentioned.

Finally, the opinion was expressed that the tendency to seek "positive" results causes important, but negative, information and data in studies to be ignored when, in truth, negative results in themselves are not a sign of unsuccessful research.

The groups thought that the following variables should be included in evaluations: the socioeconomic situation of teachers, characteristics of the family and school environment, the values of teachers and parents, and beliefs and practices regarding children. These variables interact with program development, thereby making it essential to analyze their effects on programs.

Disseminating research findings: Work has been done in several countries to develop evaluation instruments. The suggestion was made to create a data bank and a distribution centre for the instruments developed in Third World countries to avoid the duplication of work. Instruments must be documented in terms of how they were made, their validity and reliability, etc.

The importance of establishing national and regional research networks for the development of pre- and primary school action programs was affirmed. Such networks would make it possible for countries to share their experience and disseminate both conceptual information and research findings.

Areas for Future Research

As the group discussions progressed, gaps in present knowledge became apparent and areas for future research emerged. They include: general considerations on educational programs for low-income sectors, common features of the preschool and primary formal education system, the singular characteristics of preschools, theories regarding educational level, and nonformal education.

General Considerations

The working groups acknowledged the advisability of examining the degree to which theoreti-

cal and empirical knowledge on early childhood is used in educational programs.

The recommendation was made to conduct research within the formal education system itself (for example, on the school environment, teacher student relations, and the structure of the school system) to identify more clearly the roles played by the different components of the system and suggest necessary changes. This suggestion was made in view of the fact that most research has been done on preschools while there is a dearth of information and research on primary schools. Comparative studies in this field would provide important data on the effectiveness of the curriculum used in varying strategies.

Research must be done on service models, because qualitative changes do occur when making the transition from experimental studies to broader fields of application.

Ethnographic studies must be done on child-raising practices, traditional child-care systems and the nature and types of games played in different cultural and socioeconomic contexts to provide information that can be used to design programs that are better suited to the needs and cultural characteristics of the groups involved in them.

Means must be developed and assessed to use the mass media for family and child education purposes. In many countries, the poorest groups do have access to both radio and television, but these media are often not used for educational ends.

The types of interaction that occur between parents and children and the effect of this interaction on child development must be studied.

Up to the present, studies have concentrated on the mother child relationship, whereas the father child relationship has gone largely unexplored. Priority must be given to this subject because children grow up in a complex network of social relationships in the family and the community.

Also, more work must be done on theoretical and specific aspects of popular culture.

Common Aspects

A review of the comments and recommendations made during the group discussions shows that priority must be given to research on teachers in general and on teacher training in particular.

Teacher background: The following questions were raised: What is the relationship between a teacher's socioeconomic background and his or her teaching practices? What is the effect on child development of the fact that there are more female than male teachers in pre- and primary schools? The social prestige of the teaching profession is low in most countries; one likely contributing factor is the fact that most teachers are women and that most teachers come from middle- and lower-income groups. Consequently, several questions arise regarding teachers: Do people choose the teaching profession as a means of social mobility? If they do, how is this reflected in the conservative and conformist ideology observed in some teachers? Is the incompatibility between the teacher's and the students' social class background a cause of social discrimination in schools?

Teacher training: The working groups saw the need to develop types of work that would make teachers more aware of the role they play in the educational system and the effect on students and the community.

An analysis must be done of the changes teachers have undergone while participating in research projects on certain aspects of their own schools and community. Do they become more aware of community needs and interests in this way? Does their attitude toward children change? Do they make changes in academic programs in an effort to adapt them to student characteristics?

Preschool education: A more in-depth study must be done on interaction among small children to increase the little knowledge presently available on the kinds of relationships small children (from birth) establish among themselves both in nursery schools and in the family setting.

Additional studies must be done to establish the impact of preschool education on several important problems low-income groups suffer. More specifically, studies must be done to determine whether or not preschool education helps break existing cycles of poverty.

Research must be conducted on the different strategies used to increase the integration of preschool education and the home.

An analysis must be done on the effectiveness of games as a preschool educational tool.

Elements specifically related to academic levels: The specific educational needs of different geographic regions and cultural groups in each country must be identified to adapt basic parts of the school curriculum to these needs. One interesting approach to this problem is in the work done in India, where the daily home and community activities were recorded to show the parents which activities could be used to reinforce

school activities. This same approach may be used to integrate day-to-day activities with schoolwork.

The grading and passing systems used in schools must be analyzed; although the explicit criteria on which these systems are based are academic in nature, there are other nonacademic elements that play an important role, such as the conforming to certain social norms, socioeconomic background and so on.

Comparative studies must be conducted on the effectiveness of "automatic" passing systems used at the primary level in several countries.

The need to study the factors present in schools that might affect a child's academic performance (physical environment, teacher pupil, pupil pupil relationships and grading and passing systems) must be stressed.

Relations among teachers, principals, and the community must be analyzed. What relationship is there between the principal's attitude and teacher performance? How can teachers obtain greater cooperation and increased involvement from parents?

Nonformal education. Alternative nonformal education models for preschool and primary education based on active community participation in the design and implementation phases of programs need to be explored.

Research must be undertaken on the type of social and intrafamily relations in different communities because it is not valid to assume that the relations existing at the upper levels of society are the same at the middle and lower ends of society.

Policy Considerations

The working groups expressed their concern about the possible contributions of the studies analyzed to the formulation of policies on low-income children.

Because the seminar was not a multidisciplinary one, it was not possible to answer basic questions on the viability of the specific recommendations made regarding preschool education. For instance, it was not possible to go into financing and the structure of educational systems and the overall function of these systems; the working groups concluded that specialists from other areas would have had to participate in the seminar for the effects of the findings presented at the seminar regarding policy to be fully analyzed.

The groups also realized that there are no clear-cut criteria on the results needed to be able to formulate policy recommendations. In the first place, there are certain dangers involved in extrapolating results from studies onto large-scale projects. Also, it may not be advisable to conduct experiments all the time. Experiments must be focused on specific topics, which is certainly difficult to achieve because every experiment encompasses a whole series of underlying considerations and assumptions regarding the role of science, experiments, and human beings.

However, it is clear that open, flexible policies must be formulated that leave room for later modifications based on the results and on the participants.

Despite the limitations just mentioned here, some comments on policy can be made regarding overall policy directions and aims, specific quantitative and qualitative objectives, action guidelines, financing, and monitoring.

Overall Policy Directions and Aims

Discussion centred on the role education can and does play in social change.

At present, the educational system does not play a role that actually helps improve the living standards of low-income groups. However, this may change in the future when access to education expands, the amount of education received increases, and the quality and continuity of education at all levels is stabilized.

Preschool education can help reduce repeating and academic failure but is not a panacea for these problems.

A better educational system does not constitute the only means of bringing about the social changes needed to make society more just and humane.

Educational policies should be part of a broader program; they should incorporate a sense of social change and have some link with production sectors.

The poverty and extreme social inequality of the poorest nations have created a situation in which actions undertaken in several areas, and especially in the area of education, are largely designed to muffle negative social effects without providing for long-term solutions. Although some situations in certain countries require immediate, stopgap types of action, there are also times when the answers supplied for pressing problems can incorporate a larger perspective that aims to provide real solutions to problems.

Specific Objectives

Quantitative aspects: The working groups agreed that preschool coverage must be expanded to reach the very poorest social sectors.

It is clear that existing preschool resources are unequally distributed and concentrated in middle- and upper-class sectors where 100% of the children begin their education at the nursery school level. The number of low-income children beginning school at this level is far lower.

Primary school coverage should be expanded to include the most marginal groups, and especially the rural population that has traditionally had high dropout rates.

Qualitative aspects: The needs of both preschool and primary education were discussed. The comments on preschools referred to the urgent need to: integrate health, environmental hygiene, and nutrition into preschool programs; promote child development through the use of a creative methodology adapted to the real socioeconomic situation and based on community participation and the development of critical attitudes; develop a type of education that responds to childrens' needs and prepares them for the future and not an education that is confined to academic subjects alone; and proceed with caution in the matter of annexing nursery schools to primary schools because this often ends in the nursery schools taking on the operational characteristics of the "parent" primary schools; as a result, the nursery schools lose something of the unique and special experience they provide for children.

The following suggestions were made for the primary level: to use a teaching methodology that is similar to the one used in preschools to help make the transition from preschool to primary school less abrupt; to extend the time allotted for learning how to read and write. Most activities in the first year of primary school are directed at these skills and on mathematical ones, although these subjects are basic, the amount of time allotted for them means that other equally important educational activities are supplanted. If more time were planned for learning how to read and write, these other activities could be programed, benefiting children, and to achieve the aims mentioned here, the courses given at the beginning of primary school could be studied in preschools. This process would be gradual and would require some changes in curriculum, but would be well worth the effort.

Action Guidelines

While outlining several strategies designed to achieve these objectives, the following suggestions were made: adapt academic curriculum to the specific features (socioeconomic, regional, geographic, and cultural) of each target population; use existing programs and try to improve them as best as possible; use them to search for new forms of education, particularly of the nonformal type; and make a more precise estimate of the best age for beginning programs and of program length and intensity. There is little current information on this subject, which makes it impossible to make these estimates.

Cost

In many countries, preschool education is more expensive than primary education. This is possibly one reason why the preschool system has grown slowly. However, in several European countries where preschools have greatly spread, their cost is comparatively lower than that of primary schools. Several of the papers presented at the seminar demonstrated that high quality preschool programs are not necessarily expensive to run.

Monitoring

Very few comments were made on this subject. However, one comment did mention the need for the government, as it is able, to supply the necessary resources for the introduction and basic operation of preschools, leaving the community to monitor these activities.